AMERICAN GAS ASSOCIATION

Monthly

MARCH
1955

Ruud supplies water hot enough and fast enough to keep up with any automatic washer made!
Ruud Gas Water Heaters
...and when you awake washday is over!
BENDIX Gas DUOMATIC
Washer-Dryer . . . all-in-one
Youngstown Kitchens brings you
Special $175,000 advertising section appearing in February 19th issue of
The Saturday Evening
POST
launches national drive to sell Gas home laundries
COMPLETE STORY ON PAGE 6
Look to GAS for the fastest team that ever whizzed through the wash
Wash and dry the MODERN way
STEEL...the way to Laundry Leisure
J&L STEEL
Jones & Laughlin STEEL CORPORATION

Southern California Gas photographer Mel Jones pictured these stately high pressure gas holders

GAS appliance manufacturers look for a good year in 1955. That is the consensus of reports received by Gas Appliance Manufacturers Association. An analysis by Edward R. Martin begins on page 3. . . . Helping this forecast come true will be the task of national promotions scheduled for 1955. On the opposite page are some of the ads which will give a push to gas home laundries sales—details of cooperation on all levels are recounted on page 6. . . . Dependable service under all conditions is the hallmark of a good gas company. The advent of natural gas has posed in new forms the problem of just how to provide standby storage. Methods recommended particularly for New England companies are outlined by B. C. White on page 9. . . . One of the most valued awards sponsored by A. G. A. is the Safety Achievement Award. The companies who won it in 1954 have been asked to set down the essentials of their programs which proved so effective. The first of the series, on page 20, is a report by Texas Eastern Transmission Corporation. . . . Chicago was the scene of this year's A. G. A. Home Service Workshop and a lively affair it was. Home service directors from all over the nation and Canada attended. Reports on the latest developments in their field are on page 12.

JAMES M. BEALL
DIRECTOR, PUBLIC INFORMATION

VAUGHAN O'BRIEN
EDITOR

RICHARD F. MULLIGAN
ART SUPERVISOR

LOIS S. EISAMAN
NEWS EDITOR

EDITORIAL OFFICES:
AMERICAN GAS ASSOCIATION
420 LEXINGTON AVE., NEW YORK 17, N.Y.

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THIS MONTHLY IS INDEXED BY THE INDUSTRIAL ARTS INDEX

VOL. 37 NO. 3

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STRAWS *in the wind*

● *A report in brief on industry trends and activities*

EQUIPMENT MANUFACTURERS STUDY AD PLAN

A program of consumer magazine advertising of utilization appliances is being discussed by a group of companies manufacturing equipment used in the production, transmission or distribution of gas. Aim of the campaign will be to aid Gas Industry Development program by reaching existing or potential domestic customers of gas companies.

The plan being fostered by GAMA's Equipment Manufacturers Advisory Committee and is a sequel to a similar series of ads sponsored by American Meter Company a year ago. The idea received an enthusiastic reception at a regional meeting held in Pittsburgh last month and will be presented to more companies at another meeting in New York this month.

SAFETY IN ILLINOIS

Fifth presentation of A. G. A. Accident Prevention Committee's safety course for supervisors gets under way this month at Rockford, Ill., sponsored by Central Illinois Electric and Gas Company. Fifteen gas companies within a 100-mile radius of Rockford have been invited to participate.

WIDEN ACTION

Success of ten Action Demonstration Cities throughout the nation has inspired Southern Gas Association to widen participation in its territory. A number of companies have indicated their willingness to start the project in system cities.

SPECIAL AGENT

Another indication of ADP's importance is action of Sears, Roebuck. A special representative works out of Chicago home office to see that all Sears outlets in Action Cities take full advantage of program. Sears sees main opportunity as a chance to upgrade their gas appliance sales.

MORE WASHER-DRYERS

Companies determined to keep new combination washer-dryers hooked up to gas lines should be alerted to forthcoming dual purpose machine scheduled for early release by one of three major electric appliance manufacturers. Other two are expected to have their own models out within the year. Vigorous promotion will be needed to keep this new load from going to competition under impetus of new models.

GAS VS ELECTRIC

Tests of gas vs electric cooking will be held at Lake Charles, La., school cafeteria under a proposal from A. G. A. Committee on Comparison of Competitive Services. Results are expected to answer effectively extravagant claims made by competition in another Louisiana school district.

PILOT BURNERS

Research studies on the effects of various materials suitable for use in pilot burner assemblies and various fuel gas compositions on the formation of foreign deposits in gasways at elevated temperatures are detailed in a forthcoming bulletin from A. G. A. Laboratories. The study, designated as Project DGR-5-B, was sponsored as a PAR Plan activity by A. G. A. Committee on Domestic Gas Research.

MORE ON GASIFICATION

Success beyond expectations is the word from Bureau of Mines' Alabama project on gasification of coal through hydraulic fracturing. While combustion tests are next step, it is hoped that commercial operators may conduct their own tests on fracturing coal beds to draw off methane before mining operations begin.

SET BUILDER PROMOTION

This year's major promotion for builders and local gas companies is being prepared by A. G. A., National Association of Home Builders and "Woman's Home Companion." Builders of homes in the $18,000 plus category are eligible. Promotion aids are plentiful and will be capped by a new color motion picture featuring Hollywood stars.

PIPING PIZZA

Pizza, that delectable Italian pastry, can be served directly from a new counter pizza oven now on the market. Yes, it's gas-fired.

GAMA sees '55 sales rise

Each year member companies of Gas Appliance Manufacturers Association are queried regarding their manufacturing plans, based on their own market research. This data is analyzed under the direction of Mr. Martin and the consensus provides a valuable guide to the industry as a whole. The prospect for 1955, in GAMA's view, follows.

By EDWARD R. MARTIN

Director of Marketing and Statistics
Gas Appliance Manufacturers Association

Industry, in general, views the coming year with confidence and optimism, predicting 1955 activity will be in the neighborhood of five percent greater than during 1954. This optimism appears universal, and is backed by the prediction that consumer spending will be heavy during the coming year. All branches of industry are expecting to accomplish increased business in a rugged and competitive economy.

During recent years, when looking at the year just ahead, we found varied opinions as to the expected volumes of national production and business activity. Even the most optimistic outlooks were often qualified by relating such optimism to an economy which was struggling through a "period of adjustment".

For example, in December of 1953, when looking towards 1954 volumes, the pessimistic forecast was predominant. Today, 12 months later, that situation is reversed and industry appears confident that 1955 will be a profitable and healthy year, exceeding the levels of the year just passed.

Current economic conditions always have a strong influence on short term forecasts or outlooks. The situation in December of 1953, in many respects, would not permit unqualified optimism in predicting the volume of business for the next 12 months. In fact, at that time, the economists had noted a decline in factory employment, which, together with several other economic factors, led to the coining of such phrases as "rolling re-adjustment" and "inventory recession".

For these reasons, in the latter part of 1953, in the light of these signs, few, if any, would have dared to predict that the construction industry in 1954 would top the peak activity of 1953, but 1954 turned out to be the largest construction year on record.

On the whole, 1954 got off to a slow start, but gained momentum as the year progressed. The nation's gross national product during 1954 is estimated at $356,000,000,000, just 2½ percent below 1953 levels. Gross national product is defined as the sum total of all goods and services produced.

1954—a year of adjustment

One of the principal reasons behind the favorable forecast for 1955 is the economic evidence that 1954 was a year in which economic adjustments were accomplished, thus putting both the economy and the economic forecasters on firmer ground.

Let's take a brief look at some of the factors governing this outlook.

1. 1954 new construction will exceed the record construction of 1953, thus topping all previous records.
2. 1955 new construction, it is expected, will top 1954 levels.
3. In 1955, the most significant construction increases will be recorded by single family dwellings.
4. The Housing Act of 1954 will provide residential building with more liberal financing terms.
5. Current activity indicates fairly high sales and relatively low inventories.
6. Growing population.
7. Relatively high consumer savings and spending.
8. 1954 was a year in which many "economic adjustments" were made.
9. The indications that industry can take care of unemployment.

There are many other elements which must be considered

before looking at the year ahead with a firm conviction of confidence. They all add up to an indication that the sales and production levels will rise about five percent over 1954 levels.

However, there is equal recognition that because these factors will swing into high gear in the months ahead, they must be accomplished in the face of rugged competition. No one, in any line of business, expects his own sales to just

GENERAL BUSINESS OUTLOOK—1955

Consensus—1955 Unit Shipments Compared With 1954 Estimates

Anticipated 1955 Industry Sales
Compared with Estimated 1954 Sales—Units

	Consensus—1955 Unit Shipments	Estimated—1954 Unit Shipments*	Percent Change 1955 over 1954
Domestic Gas Ranges	2,130,000	2,017,000	+ 5.6%
Auto. Gas Water Htrs.	2,328,000	2,285,000	+ 1.9%
Central Gas Htg. Equip.			
Warm Air Furnaces	723,000	670,000	+ 8.0%
Boilers	77,000	73,800	+ 4.3%
Conversion Burners	228,800	222,900	+ 2.6%
TOTAL	1,028,800	966,700	+ 6.4%
Vented Recessed Wall Heaters	333,300	334,300	— 0.3%
Gas Floor Furnaces	146,600	164,300	— 10.8%
Gas Direct Htg. Equip.	1,386,000	1,424,500	— 2.7%
Gas Unit Heaters	xxx	xxx	+ 15.7%
Gas Incinerators	xxx	xxx	+ 17.1%
Gas Hotel & Rest. Equip.	xxx	xxx	+ 8.4%
Gas Clothes Dryers	Insufficient Reports Received		

*Ten months actual, two months estimated

increase . . . all elements of business are set to hold or increase current sales volumes against tough competition.

It should be recognized that an increase of five percent in national activity does not carry the guarantee that all business will increase five percent nor does it mean that five percent will be a maximum increase for the progressive business.

If 1954 was the adjustment year in the national economy, 1955 could be the year which will finally separate the men from the boys . . . the year which will announce the demise of the order taken and place on the critical list the company which is geared to operate solely in a demand market. Competition will range from the laboratory, through production and distribution channels, right down to the dealer and ultimate consumer.

Generally speaking, gas appliance and equipment manufacturers anticipate comparative 1955 volumes which are in tune with the forecasts for industry as a whole. For example, the consensus is that 1955 volumes will exceed 1954 volumes as follows:

Domestic gas ranges	+5.6%
Automatic gas water heaters	+1.9%
Gas-fired warm air furnaces	+8.0%
Gas-fired boilers	+4.3%
Gas-fired conversion burners	+2.6%

These percentages could be materially increased if all individual manufacturers perform up to expectations.

Other gas appliances, such as clothes dryers, incinerators, hotel and restaurant cooking equipment, and gas-fired unit heaters look for even more substantial increases in sales volumes.

Manufacturers of gas-fired vented recessed wall heaters, and direct heating equipment expect approximately the same sales volumes in 1955 as in 1954. Gas-fired floor furnace manufacturers anticipate their industry volumes to fall below last year's levels.

See range trend reversed

There are many significant indications. Domestic gas ranges, since accomplishing a peak sales year in 1950, have found sales falling into a declining pattern. The consensus is that this trend will be reversed during the coming year.

Automatic gas water heater sales are expected to come close to the previous annual sales record set in 1950.

In the gas-fired central heating field, gas-fired warm air furnace sales established a new peak in 1954 and anticipate going on to higher planes in 1955.

Hot water and steam heating equipment manufacturers also might find 1955 sales approaching record levels. Contemplated increased promotion and sales efforts on the part of individual manufacturers and on a national cooperative basis, could have a very beneficial effect on these markets.

The following presents a detailed consensus of the current outlook for each type of gas-fired equipment.

Domestic gas ranges

Number of companies reporting	27
Units shipped (1954) by reporting companies (est.)	1,264,981
Units shipped (1954) by industry (est.)	2,017,000
Percent of industry shipments reported	62.7%

After the record year, 1950, when 3,031,300 domestic gas ranges were sold, sales fell into a declining pattern.

1951 — 2,356,400 units
1952 — 2,175,400 "
1953 — 2,183,300 "
1954 — 2,017,000 " (Est.)

The consensus is that 1955 unit sales will increase 5.6 percent and approximate 2,130,000 units.

There is a higher degree of optimism on the part of gas range manufacturers than has existed for some time. Of the 27 reporting manufacturers, 16 expect the industry to do

increased volumes; seven expect lesser volumes; four did not answer. The majority of companies indicating decreased activity were consistent in estimating 1955 volumes at 2,000,000 units, very slightly below the 2,017,000 unit sales of 1954. By the same token, the manufacturers expecting the industry to do increased business do not look for anything spectacular with the majority of estimates in the 2,100,000 to 2,250,000 bracket.

Twenty-two manufacturers expect their own volumes to increase during the coming year.

Therefore, in view of contemplated technological and design advances, culminating in new conceptions of gas cooking, and individual manufacturers increased sales activity and promotions, it is well within the realm of possibility that 1955 sales will reach a point 12 percent greater than during the previous year.

At any rate, indications are strong that the industry has arrested the downward trend and is pointed in the right direction.

Automatic gas water heaters

Number of companies reporting	33
Units shipped (1954) by reporting companies (est.)	1,911,909
Units shipped (1954) by industry (est.)	2,285,000
Percent of industry shipments reported	83.7%

Sales of automatic gas water heaters established a sales peak in 1950 when 2,364,500 units were sold. Since that time, annual sales were as follows:

1951 — 1,937,700 units
1952 — 1,910,400 "
1953 — 2,183,000 "
1954 — 2,285,000 "

It is expected that sales will continue to increase, with the consensus that 1955 unit sales will approach the record levels of 1950 and approximate 2,328,000 units, an increase of 1.9 percent over 1954.

Manufacturers are optimistic in their outlook on industry performance: 19 expect increased volumes; three look for no change; eight look for relatively minor decreases; three did not report.

Twenty-eight manufacturers look for their own volumes to rise.

With all companies performing close to their expectations, 1955 could be the banner year for automatic gas water heaters, with sales 13 percent higher than they were in 1954.

Gas-fired central heating equipment

	Furnaces	Boilers	Conversion Burners	Total
Number of companies reporting	48	24	38	110
Units shipped (1954) by reporting companies (est.)	416,730	40,420	146,796	603,946
Units shipped (1954) by industry (est.)	670,000	73,800	222,900	966,700
Percent of industry shipments reported	62.2%	54.8%	65.9%	62.5%

The consensus for 1955 sales is as follows: warm air furnaces, 723,000 units, an increase of 8.0 percent; gas-fired boilers, 77,000 units, an increase of 4.3 percent; gas conversion burners, 228,800 units, an increase of 2.6 percent. This indicates that gas central heating equipment could establish a new unit sales peak during 1955.

As was the case with domestic gas ranges and automatic gas water heaters, the year 1950 saw gas-fired central heating peaks established, when a total of 1,024,700 units were sold. In 1954, gas-fired furnaces surpassed 1950 sales and totalled 670,000 units. It is anticipated that a new peak will be established in 1955. A review of sales, in units, from 1951 through 1954 follows:

	Warm Air Furnaces	Boilers	Conversion Burners	Total
1951	390,000	60,500	164,000	614,500
1952	451,200	68,500	200,000	719,700
1953	513,700	72,000	213,100	798,800
1954 (est.)	670,000	73,800	222,900	966,700

It is interesting to note that the great majority of gas central heating equipment manufacturers are optimistic as to anticipated increases in sales volumes for both their own companies and the industry as a whole.

Warm-air furnaces: Of 48 companies, 40 expect their own companies to do increased business and three expect no change; only one company expects his business to fall off and four did not answer. If individual companies accomplish what their reports indicate, 1955 volumes could exceed those of 1954 by as much as 27 percent.

Gas boilers: Eighteen of 24 reported companies look for their companies to exceed last year's volumes; one expects business to be about the same; one expects less business and four did not answer. With each company performing up to expectancy sales could increase by 14 percent this year, thus surpassing the peak sales of 1950.

Gas conversion burners: Generally speaking, the consensus is that industry business will be slightly better in 1955, but most companies indicate accelerated sales of their own products. With 25 of 38 reporting companies expecting to surpass their last year's volumes and three anticipating the same degree of sales, 1955 could wind up 20 percent over 1954 sales. Six companies expect to do less volume and four did not answer.

Vented recessed gas wall heaters and gas floor furnaces

	Vented Recessed Wall Heaters	Floor Furnaces
Number of companies reporting	18	14
Units shipped (1954) by reporting companies (est.)	296,991	91,809
Units shipped (1954) by industry (est.)	334,300	164,300
Percent of industry shipments reported	88.8%	55.9%

Vented recessed gas wall heater manufacturers, generally speaking, feel that industry volumes will be about the same as during 1954. Manufacturers of gas floor furnaces anticipate a decrease in 1955 volumes. The consensus:

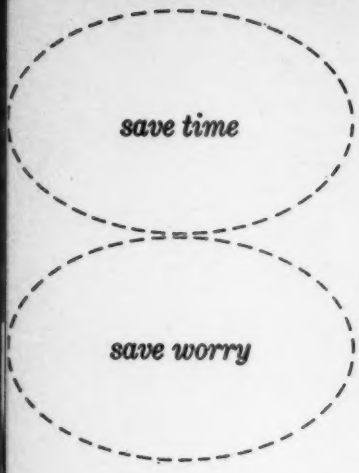
Vented recessed wall heaters, 33,300 units, a decrease of 0.3% from 1954.
Gas floor furnaces, 146,600 units, down 10.8% from 1954.

Here's the sales performance since 1951:

	Vented Recessed Gas Wall Heaters	Gas Floor Furnaces
1951	198,900	249,300
1952	242,400	222,400
1953	315,000	185,600
1954 (est.)	334,300	164,300

With individual manufacturers performing up to expectations, the vented recessed gas wall heater industry could perform at a rate as high as 20 percent over last year's sales.

(Continued on page 31)



TRIPLE PLAY PROMOTES GAS LAUNDRIES

a PAR activity

The gas industry's most ambitious bid to make gas the preferred fuel for modern home laundries got under way last month with coordinated effort on the part of American Gas Association's advertising and promotion departments and the New Freedom Gas Kitchen and Laundry Bureau.

Focal point of the drive is the February-March "New Freedom Gas Laundry Promotion" which has some 170 gas companies cooperating in the A. G. A.-sponsored national drive to sell more automatic gas water heaters and automatic gas clothes dryers.

An indication of the interest and support aroused by this year's campaign is contained in the report of the promotion department on sales of animated displays designed for the promotion. So far the volume of sales for these displays is within $4,000 of the total value of *all* displays sold for ten campaigns during 1954.

National advertising for the campaign was kicked off in the Feb. 19 issue of *Saturday Evening Post,* which carried an eight-page advertising section with a net cost of $175,000. Among the companies joining A. G. A. in this section were Bendix (gas "Duomatic"), Jones and Laughlin Steel, Monsanto Chemical ("all"), Robertshaw-Fulton Controls, Ruud Manufacturing, Youngstown Kitchens and Florence Stove. (See inside front cover for examples of these advertisements.)

As a result of this section the merchandising aid of the *Post* was enlisted for the New Freedom Gas Laundry promotion. The *Post* made available free kits consisting of a 30 by 30 inch display, reprints of the ads and easel cards for mounting them.

The *Post* also mailed to major appliance distributors throughout the country a special edition of its "Merchandising News" to publicize the promotion. A special newspaper supplement on the

"Please, Joe, try to keep the lather away from the egg."
Gas
automatic water heaters give hot water 3 times faster
COMPANY NAME HERE

"So help me, the water wasn't ONCE hot enough the whole time you were away."
Gas
automatic water heaters give hot water 3 times faster
COMPANY NAME HERE

what a way to save the day!

New Freedom Gas Laundry has been made available to 1,758 newspapers to aid in local level advertising and publicity promotions.

The New Freedom Gas Kitchen and Laundry Bureau is distributing 30,000 copies of an attractive reprint of the *Post* section.

Material designed and distributed by the A. G. A. promotion department can be utilized for either a combined laundry promotion or as separate water heater and clothes dryer promotions.

The animated display for water heaters, selling for $5.75, consists of a top panel of heavy board mounted on sturdy tubes individually tailored to fit every water heater, and a colorful wrap-around piece that attached by kleenstik. The top panel carries the copy, "Gas gives you automatic hot water 3 times faster for every household use," and a hand holding up three fingers emphasizes the slogan. The wrap-around illustrates and describes four major uses of hot water.

The clothes dryer motion display, featuring Bob Hope, shows the movie star hanging clothes on an outdoor line (arm moves up and down in a clothes-hanging motion). Copy reads "Crosby got me into this," says Bob Hope, Paramount star, "tomorrow I get a new automatic GAS clothes dryer." This display, designed for dryer top, is also $5.75.

A large floor display also available serves as a background for a clothes dryer and a water heater combined with cabinets into a laundry setting.

Twenty-four sheet posters are available on both the clothes dryer and the water heater, with the same designs available in car card size.

Other sales aids offered by the promotion department for the campaign are ad mats for both appliances, consumer booklets, sales manuals, suggestions for starting a water heater rental plan, and premiums such as towel sets, thermometers, and balloons.

Monsanto Chemical, whose advertise-

(Continued on page 47)

Interim and annual reports on rate changes

By Bureau of Statistics
American Gas Association

The third interim report on rate changes has just been released, relating to the effect of an additional 20 rate changes. These interim reports were initiated under the sponsorship of the American Gas Association Rate Committee, to provide information on the existence, magnitude, and characteristics of the more important gas rate changes within a short time after their imposition and prior to the release of the more detailed annual report.

They are issued at approximately quarterly intervals for release to rate correspondents of gas utilities, to keep them posted on latest developments in this field. Since the reports refer only to the more significant changes, they cannot be summated to a total comparable with the annual reports, but their magnitudes may still be of considerable interest.

The third report included responses received from utilities instituting 13 rate increases and seven rate decreases. The effect of these increases totaled $21.4 million while the gas rate decreases aggregated $2.5 million. In the first three reports as a whole, increases effected by 24 companies amounting to $32.9 million, and 15 decreases totaling $9.0 million, were indicated.

As in previous years, the most usual reason for the institution of higher retail gas rates was increased cost of gas from the supplier. Other factors contributing to the need for higher rates were increases in labor cost, cost of new facilities, and increases in taxes. Decreases were predicated upon conversion from manufactured and mixed gas to natural gas and the attempt by several utilities to promote certain types of use, principally house heating.

The primary reason presented by three very large companies, who put into effect increases totaling $16.6 million, was the increased cost of gas from their suppliers. One company recently received a $6.3 million rate increase based on the increased cost of capital and its low over-all earnings. Two large utilities who put into effect lower rates aggregating $5.4 million, did so because of a reduction in the cost of purchased gas resulting from a Federal Power Commission decision affecting their suppliers.

1953

The final results of the seventh consecutive annual study of rate changes, sponsored by the American Gas Association Rate Committee, has just been released. Previous analyses were made available to the industry in the Fall, and a preliminary report on 1953 rate changes was released last October.

The issuance of reports in the Fall has not permitted the inclusion of information on all rate changes effective during the year in previous reports. With the issuance of interim rate change reports, the need for timeliness on the annual compilation has been lessened and, accordingly, in the future a preliminary annual report will be issued in October and a final release will be distributed in February.

Since the current report is more complete, the totals shown in the table below for 1953 are not strictly comparable with the amounts shown for preceding years.

Rate change reports were received from 103 utilities indicating 99 increases and 17 reductions during 1953. The actual number of changes instituted during the year were substantially larger as many utilities did not respond to the request for information. However, the vast preponderance of such changes were extremely minor in nature or involved negligible effect upon customers and revenues so that the totals indicated below may be regarded as valid indicators of the magnitude of gas rate changes.

THE EFFECT OF GAS RATE CHANGES, 1947-1953

	Increases			Decreases		
Year	Number of Changes	Customers Affected (Thousands)	Amount (Millions)	Number of Changes	Customers Affected (Thousands)	Amount (Millions)
1947	42	2,637	$12.0	3	203	$ 0.4
1948	99	3,266	31.9	4	5	0.01
1949	79	6,284	35.2	8	25	0.3
1950	52	1,640	15.6	59	3,368	17.2
1951	50	1,935	22.0	38	894	5.8
1952	99	3,562	35.7	43	759	3.4
1953	99	9,609	57.6	17	943	1.6

Rates were increased by $57.6 million and affected 9.6 million consumers, while 0.9 million customers were benefited by reductions in gas rates totaling $1.6 million. The following table presents the pattern of rate changes, for those companies reporting these statistics, annually since 1947.

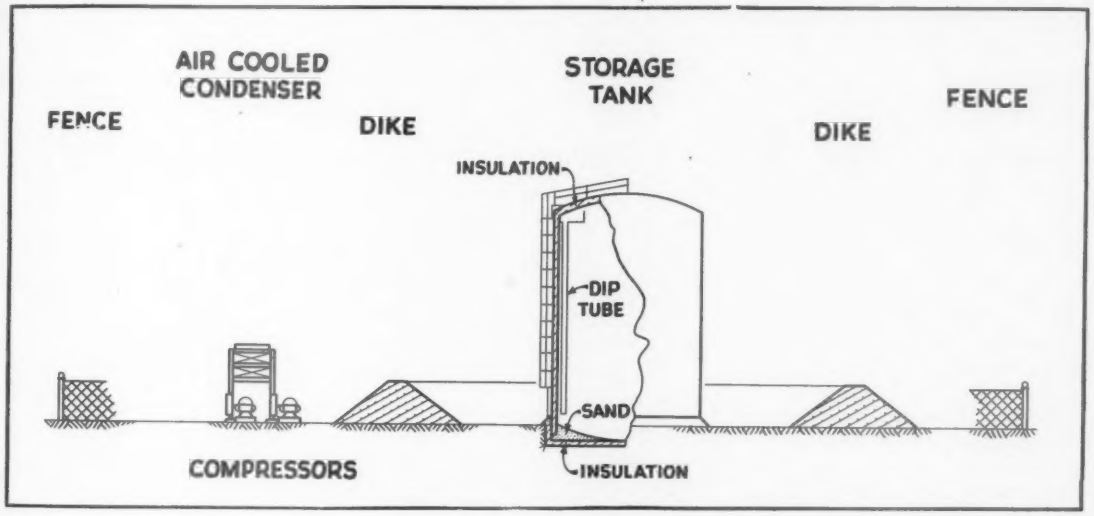
Although the number of individual rate increases were the same as last year, both the amount and number of customers affected were significantly greater. The reported $57.6 million granted in rate increases during 1953 represented the greatest amount put into effect during the post-war period. The 10.5 million customers affected by rate changes is the largest number since the Rate Committee undertook the task of surveying the extent and nature of rate changes in 1947.

Two principal elements were operative in necessitating upward revisions of gas rates; the increased cost of gas from pipeline suppliers and a general rise in operating costs of the distributing companies. The former reflects increased field prices of natural gas resulting from higher exploration costs, increased transmission costs, and increased demands for gas. The principal factors reported as causing an increase in operat-

(Continued on page 43)

A review of methods and relative costs for storage of hydrocarbons, with emphasis on refrigeration and caverns

LPG storage for stand-by use



Elevation view of a typical refrigerated propane storage installation

By B. C. WHITE

Stone & Webster Engineering Corporation

Considerable interest has been expressed in the problems and costs of storing hydrocarbons for stand-by use. Many are examining facilities of their companies and are trying to determine the type and quantity of stand-by to provide for their systems. Should this stand-by be propane, oil gas, or natural gas under pressure or liquefied natural gas?

Presented to the Operating Section, New England Gas Association, Jaunary 18, 1955.

Operating an oil gas plant on the intermittent basis has the problems of keeping oil lines hot, the purifying boxes tight, the tars in the plant mains fluid and the wash box clean and ready for operation. All of these maintain the costs at a high level and, in addition, there are the manpower problems and maintenance and overhead on the plant. These have been the subjects for many discussions.

Let us move on, instead, to other forms of stand-by. The most common, and one of the most versatile, is the propane plant. Many companies are using propane for peak shaving, and with facilities already there for sendout, would like to increase the storage to provide for stand-by.

That makes sense, but how about cost and are there other means for storing the propane than in pressure tanks? For New England, refrigerated storage and underground caverns can be considered. In a few sections of the country, fortuitously located abandoned gas fields may be used for propane storage.

The idea of refrigerating a liquid for storage is not new. It has been successfully used for storing ammonia and oxygen. Some hydrocarbons, such as butadiene, are refrigerated in storage to reduce the possibility of polymerizing the fluid. However, when this method for storing propane is used, the propane itself becomes the refrigerant.

To obtain a better understanding of this system, we show on this page a refrigeration system reduced to its simplest form: the heat pump or compressor, the condenser and the flash tank. The flash tank is the storage tank itself. This is permissible since the propane is being used for the refrigerant.

In operation, the propane vapors are withdrawn from the tank by the compressor, and the pressure raised to about 200 psi gage. The vapors then move on to the condenser. Liquid from the condenser expands through the back pressure valve to tank pressure of about one psi gage and, in so doing, about 50 percent of the liquid flashes the vapor to provide the necessary cooling for the remaining liquid. The temperature of this liquid is approximately —43F. The flash vapors are recycled to the compressor along with the other vapors formed by the influx of heat from the outside of the tank.

There are a few instruments and controls necessary to make practical operating conditions. A flow control valve in the propane filling line will limit the flow from the tank car and keep the excess flow check valves at the tank car from closing. It should be noted that much more compressor horsepower is required to refrigerate the incoming liquid than to maintain the tank at storage temperature. For example, on a tank for storing 1,150,000 gal. of propane, about 100 hp of compressor capacity would be required to refrigerate the liquid from the tank car, while 32 hp would hold the tank at the required operating conditions during summer weather.

A vent is required on the condenser to release non-condensable gases. This may be connected to the low pressure gas system or to boiler fuel. While these gases are vented as noncondensable, they may include methane, ethane and propane vapors, as well as air, and so have a fuel value.

When using this method of storage, the sendout liquid must be pumped to the vaporizer and, under some conditions, the pumping rate may tend to lower the tank pressure excessively. Since a small positive pressure should be maintained on the tank at all times, a vapor line is brought back to the tank from the vaporizer and controlled by a regulator in the line. The compressors can be controlled by the pressure in the tank and stepped so that the smaller unit would normally be operated, with the larger compressor put on only during tank car unloading operations and for emergency service in the event of failure of the smaller unit.

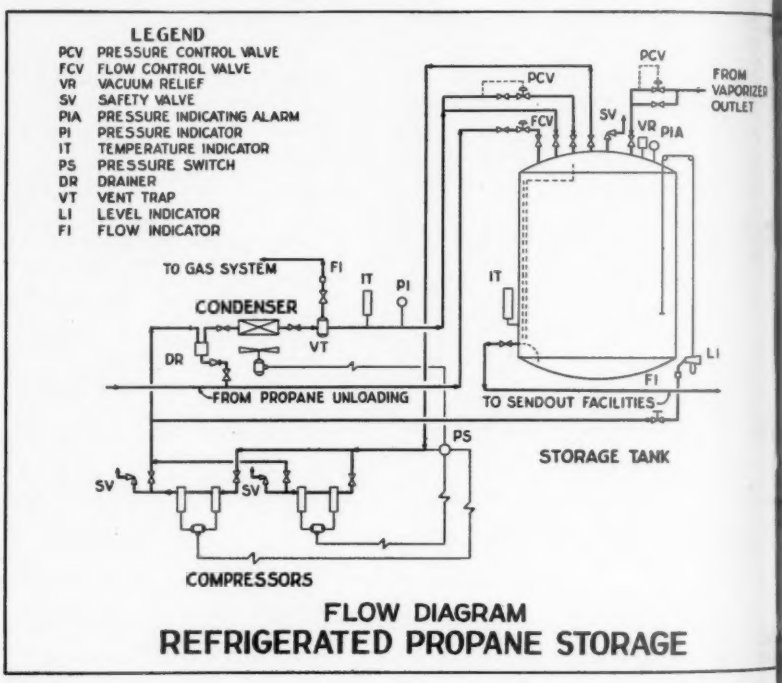
While the storage method depends on its refrigeration system, about 40 hours would elapse before the pressure in the tank with the heavy insulation provided would rise from one psi gage to the relief valve setting of 2.5 psi gage. This would give ample time to make repairs to the refrigerating system or to vent the vapors to the gas system. In selecting materials for a storage tank of this nature, the service temperature must be taken into consideration, and the usual material of construction would be A201 aluminum killed steel, specified as suitable for service at the operating temperature.

On page 9 is an elevation of a typical installation. It is evident that the tank is modified slightly from the conventional cone roof storage tank, in that the heads are dished to take the small increase in storage pressure. The sides are straight and, as far as the general public is concerned, these tanks are similar to those which are currently in use for fuel oil storage. The tanks are heavily insulated and have a surrounding dike to retain liquid in the event of a tank failure.

This latter precaution is necessary, since very little liquid would flash to vapor upon release from the tank. Only that portion of the liquid would be gasified which could obtain its heat of vaporization from the ground and the atmosphere. The compressors and condenser would be located out-of-doors and no housing would be provided except for those areas subject to heavy snowfall.

The other type of storage which may be somewhat new to New England is the storage cavern. It is generally suitable for larger storage volumes and makes use of man-made underground caverns. These caverns may be of any general arrangement, but must be located at least 200 ft. below the surface of the ground. In general, the preferred location would be in an impermeable rock structure such as shale, limestone, granite or other igneous rock. Installations of this nature have been used frequently by producers for storage of propane, but there is no reason why similar storage could not be developed at some points of utilization.

It has been proposed by some geologists and mining engineers that formations which exist in the eastern and



FLOW DIAGRAM
REFRIGERATED PROPANE STORAGE

northeastern portions of this country could be safely utilized for this storage. It has been suggested that minor crevices and faults might be sealed by using pressure grouting techniques in a manner similar to that employed in the oil fields for sealing off undesired formations.

It should be borne in mind that a propane storage cavern does not lend itself to expansion after completion. Therefore, the anticipated needs for several years must be considered in the size to be installed.

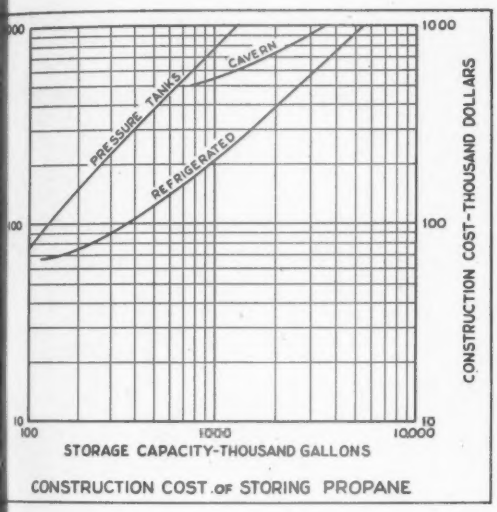
We assume that propane stored in pressure tanks would follow the practices currently recommended by the ma-

storage in excavated caverns as approximated for formations similar to those existing on the East Coast. Costs include allowances for geological investigation, test boring and engineering for the entire installation. No allowance has been included for pressure grouting which might be required to seal the cracks and crevices.

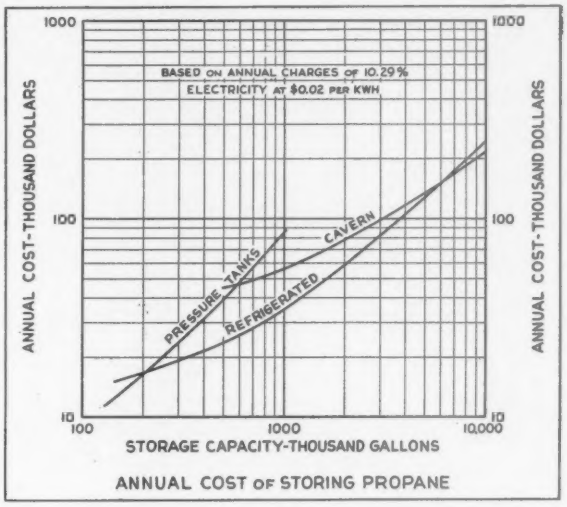
The lower curve represents costs for the refrigerated tank method of storing propane. It should be noted that this curve is much lower than that for propane storage in caverns and for propane storage in tanks; however, these are the capital costs only.

cost line for pressure tanks at approximately 700,000 gal. However, it should be noted that the refrigerated tank storage cost line crosses the one for pressure tank storage cost at about 100,000 gal. of storage capacity.

This indicates that, for those instances where propane storage of 100,000 gal. or more should be provided, consideration should be given to the use of refrigerated storage. This system is particularly well adapted to standing storage, as required for a stand-by plant, since the annual costs are low and the operating equipment is small and simple to maintain.



Relative construction costs of three storage methods for propane are shown by curves above



Annual costs for propane storage by three methods are shown above, including operation

diagram at left shows a refrigeration system reduced to its simplest heat pump, condenser and flash tank. Flash tank serves as storage tank

jor insurance companies for tank protection. These include several investigations which have shown little difference in cost between that of providing for heavy water spray on tanks and covering the tanks with earth or fireproofing them with suitable material.

To show the general cost relationship of each of these systems of propane storage, the chart above has been prepared and gives the relative construction costs for each of the three methods of propane storage. The upper curve represents the cost of conventional pressure storage tanks covered with earth; the middle curve represents the cost of propane

The other shows the costs on an annual basis, making allowance for the operating costs of the refrigeration system required for the refrigerated storage method. The pressure tank storage of propane is again shown by the upper curve, while the middle curve represents the annual cost for cavern storage, and the lower curve, the cost for refrigerated storage.

It may be seen that, when operating costs are considered, the costs for storing the propane in a cavern become less than those for storing in refrigerated tanks at a storage capacity of approximately 5,000,000 gal., and this line crosses the

It has been found that the pressure tank storage covered with earth and the underground cavern could be located in areas of general residential nature, since little equipment is required above ground and the storage systems are inherently safe. The pressure tank storage and refrigerated storage system are suitable for installation in an industrial area where similar storage structures already exist or might be acceptable. Such a location might be on property adjacent to the existing gas plant facilities.

To complete the story on propane, consideration should be given to the

(Continued on page 41)

Problem of employing qualified personnel, common to almost all home service executives, is discussed by panel members (left to right): Julia Hunter, Dallas; Mrs. Helen Mandigo, Kansas City; Eleanor Morrison, Grand Rapids; J. Montgomery, Charleston, W. Va.; M. E. Pfeiffer, Chicago, M. Smith, Nashville

Program Committee meets between Home Service Workshop sessions (left to right): Mildred R. Clark, Tulsa; Elizabeth Lynahan, Chicago; Jessie McQueen, New York; Katharine Rathbone, Los Angeles, chairman of the 1955 Home Service Committee; Eleanor Morrison, Grand Rapids, Mich.; Irene L. Muntz, Rochester, N. Y.; Mary E. Huck, Columbus, Ohio

Among speakers at the Workshop are (l. to r.): Mary B. Allgood, Pa. State University; Flora Dowler and Kathryn Barnes, Pittsburgh; Mrs. Leone R. Carroll, Barrington, Ill.; F. X. Mettenet, Chicago; Ruth Sheldon, Washington, Katherine Rathbone, Los Angeles, Sophia Lovekamp, Chicago

Home service attention focuses on selling ideas, new projects, common problems

View new trends at Home service workshop

"The theme of your Workshop is 'The How and Why of Home Service Cooperation with Sales' . . . my answer to this is TO SELL GAS! You, who can do professional creative selling in your demonstrations because you have the confidence of your audiences, are the fair-haired girls in the battle of the fuels and we love you for the grand job you are doing!" said Walter H. Kurdelski, speaking at the final luncheon conference of American Gas Association's 1955 Home Service Workshop.

Mr. Kurdelski, chairman of A. G. A.'s Residential Gas Section and residential sales manager of Michigan Consolidated Gas Co., Grand Rapids, spoke before approximately 250 gas company home service women from 32 states in the union and Canada, as they were preparing to return to their jobs. The 1955 Workshop had offered them scores of worthwhile, tried-and-true selling ideas

Workshop Hospitality and Registration Committees this year were, l. to r.: Mrs. Kathryn Johnson, Spring Valley, N. Y.; Vivian Marshall, New Orleans; Ruth Sheldon, Washington; Mrs. Elizabeth Wilson, Binghamton, N. Y.; Virginia Belden, Coolidge, Arizona.; Mrs. Kathryn Ashcraft, Columbus, Ohio; Mrs. Catherine Allspaugh, Scranton, Pa.; Mildred Endner, Minneapolis; Lucy Slagle, Atlanta, S. Sicker, Atlantic City

Symposium speakers on Special Emphasis on Home Service were (l. to r.): Evelyn Winkes, Cleveland; Marjorie Chandler, Toronto; Laverna Best, Houston; Mrs. Dorothy Healy, Allentown, Pa.; Patricia Hendrick, Tulsa; Virginia Stacey, Columbus, Ohio; Susan A. Mack, Boston; Mrs. Donnell Ligon, Ardmore, Okla.; Mrs. Laura Piepgras, Lincoln, Neb.; Betty A. Morgan, Baltimore and Shirley Brua, Los Angeles

that will pave the way toward greater participation of home service in the utility sales program.

Headquarters for the Workshop, held January 23-26, were at Chicago's Drake Hotel, with Tuesday's activities centered in the home service auditorium of The Peoples Gas Light and Coke Company.

The Workshop was sponsored by the A. G. A. Home Service Committee whose chairman this year is Katherine Rathbone, home service supervisor, Southern Counties Gas Company of California, Los Angeles.

One interesting highlight of the Workshop was a keen analysis of new automatic gas ranges, "Gas Panorama of Progress." With the help of slides, H. Preston Morehouse, assistant sales manager, gas, Public Service Electric and Gas Co., Newark, explained important new features, and reported on new developments such as the nickel-sized burner and the top-of-the range automatic thermostat. After his talk, home service women were able to get a first-hand view of the new developments at a display set up by leading range manufacturers.

Attended by manufacturer representatives, a three hour study was given to the new features by registrants who, as requested by Mr. Morehouse, voted on features of the various ranges which most appealed to them from a practical homemaking view.

In a revealing demonstration "Let's Be Fair", conducted by Ted Carrow, Cribben and Sexton Co., Chicago, a gas and an electric range of similar quality were compared on bases of speed, dependability, cleanliness and convenience. The demonstration, held in the home service auditorium of The Peoples Gas Light & Coke Co., proved gas ranges superior on all counts, particularly in top-of-the-range and broiler cooking. In addition, a demonstration of the Servel Ice-Maker refrigerator was given by Mrs. Donnell Ligon, home service director, Oklahoma Natural Gas Co., Ardmore.

"Special Emphasis on Home Service" —a series of 12 quarter-hour talks in symposium style presented through the three-day program—stressed many facets of the field. The first symposium, on Monday morning, included "A Weekly Television Show", in which Betty Ann Morgan, Consolidated Gas Electric Light and Power Co., Baltimore, related her experiences with a weekly TV program "The Homemakers' Roundup" which is televised in the utility's home service kitchen.

Laverna Best, home service director, Houston Natural Gas Corp., described the new Hospitality House which has been built by her company for appliance

displays, meetings, and other public relations functions. (For a full description of Houston's Hospitality House, see A. G. A. MONTHLY, March 1954, page 31.)

This year, the Gas Industry Development Program, as well as its results in Demonstration Cities, has been on everyone's lips. Mrs. Laura Piepgras, Central Electric and Gas Co., Lincoln, Neb., described the role of "Home Service in an Action Demonstration City". Among other projects, she told of participation in a Parade of Homes in which 12 model houses staffed by members of the home service department, were displayed during National Home Builders' Week.

Susan A. Mack, home service director, Boston Consolidated Gas Co., discussed her company's sponsorship of an annual cooking school, held in Boston's famous Symphony Hall, in cooperation with a local supermarket and newspaper. One of the unusual and sometimes hectic features of the school, said Miss Mack, was a kindergarten for visiting youngsters.

A second "Special Emphasis on Home Service" symposium held in the auditorium of The Peoples Gas Light & Coke Company on Tuesday afternoon, included four new approaches to home service projects. Evelyn Winkes, newly-appointed home service director at The East Ohio Gas Co., Cleveland, described "Spotlight Foods", a project for junior high school students. Phases of demonstration of meal preparation were then presented by two members of the Cleveland department. Virginia Stacy, The Ohio Fuel Gas Co., Columbus, described her company's work in entertaining home economics teachers in its territory.

In a "New Emphasis for Home Service", Shirley Brua, Southern Counties Gas Co., Los Angeles, told of her department's work with the women who are responsible for the daily feeding of patients in hospitals, children in school cafeterias at the elementary, secondary and junior college levels. Experience showed that these women were relatively uninformed about commercial gas cooking equipment, and that they welcomed assistance in learning about selection, effective operation and maintenance.

The third symposium, on Wednesday morning, brought news of more unusually successful selling programs. Marjorie Chandler, director, home service department, The Consumers' Gas Company of Toronto, described her company's contest for teen-age home economics students in "Our Future Homemaker Contest".

Mrs. Dorothy Healy, Lehigh Valley Gas Div., United Gas Improvement Co., Allentown, Pa., explained how her company capitalized on an eight-week cook book contest in which she was invited to serve as judge.

Patricia Hendrick, Oklahoma Natural Gas Co., Tulsa, introduced home service to many of modern fiction's zany ideas in her presentation, "Cook-a-Rama". Miss Hendrick described Oklahoma Natural's unusual newspaper cooking school that features magic carpets, space ships, mysterious voices, and most important, the most modern, up-to-date and "out of this world" gas appliances.

A great deal of helpful material, in addition to that in the symposia, was offered at every session. Homemakers, faced with completely new washday problems when they start using automatic washers and dryers, instinctively turn to the gas company for help. Flora G. Dowler, home service supervisor, The Manufacturers Light & Heat Co., Pittsburgh, described her company's answer to the challenge, Laundry Clinics for Schools and Institutions.

The clinics offer practical instruction to home economics students, dealers, salesmen and homemakers in an effort to solve the scores of automatic home laundry problems which have been presented to the gas company staff.

Mrs. Leone Rutledge Carrol, home economics consultant to the Dow Chemical Co., showed in "The Modern Laundry Needs Modern Water", just why automatic washing presents so many problems especially in areas where there is hard water. In fact, her demonstration clearly showed how and why *all* household tasks, from dishwashing to shampooing are complicated in the presence of hard water.

(Continued on page 46)

PANORAMA OF PROGRESS
ROBERT SHAW FULTON
FLORENCE • HARDWICK • UNIVERSAL • NORGE • SUNRAY
P.A.R. RESEARCH • VERNOIS • ROPER • CALORIC • TAPPAN • DIXIE

H. P. Morehouse, Newark, N. J. (standing), introduced Panorama of Progress and representatives of contributing manufacturers

Wednesday speakers and head table guests (l. to r.): Harold Tilley, Philadelphia; Elizabeth Lynahan, Chicago; Katherine Rathbone, Los Angeles; W. H. Kurdelski, Grand Rapids; Mrs. Dione Lucas, New York; Frieda Barth, Detroit; Dorothy Shank, and Lee Ballard, N. Y., R. B. Munroe, Chicago

General items represent a small portion of utility plant... but accounting for them is no small problem

Controlling general equipment

By GEORGE F. DIXON

Milwaukee Gas Light Company

Accounting for general equipment has been a topic of discussion among property record accountants for years. Although it represents a relatively small portion of the dollars of a company's utility plant, general equipment consists of many different items scattered over many locations. To account for it requires proportionately more attention and consideration than most other units of property.

Most accountants agree that the physical numbering of each item of general equipment and the maintaining of a separate card record for each unit is the most accurate and, in the end, the simplest way of accounting for general equipment items. But there is a divergence in views on the methods and procedures best suited for such accounting and most discussion evolves around this point.

The procedure herewith described is currently in use by the Milwaukee Gas Light Company, a natural gas distributing company serving approximately 235,000 customers in and near Milwaukee, Wisconsin. Currently its balance sheet shows approximately $64,700,000 of utility plant in service, of which $2,460,000 represents the type of general equipment referred to.

The company's procedure is unique in that it provides for attaching the identifying tag when the equipment is received, rather than at some later date after the equipment has been in use and is somewhat more difficult to locate. Punched cards are utilized in record keeping and greatly facilitate the processing of equipment reports by departments, locations, accounts, item numbers or any other order of reporting desired.

Before describing the method, it may be well to point out that each department is identified on the records by a three digit area code number. Some of these

George F. Dixon, supervisor of property records department, Milwaukee Gas Light Co., describes how his company keeps track of general equipment

departments are located at more than one of 17 possible locations. A five digit location number used on the punched card is a combination of the area code number (3 digits) and location code number (2 digits). Ledger accounts for property are maintained by prime account only, with no subaccounts for location identification. This system permits transfers between departments or locations by memo only, unless reclassification of property is involved.

Machine listings by location are readily obtained at the end of the year and at such other times as a special need exists for them. This same principle of maintaining the dollar control of property by account and type of property only, and relying on special coding for breakdown by location also applies to the company's other property units and is believed to be a vast improvement over the subaccount method of segregating property by locations.

The procedure outlined is but one of many which is spelled out in detail in accounting procedure and field reporting manuals. These manuals were furnished to responsibility area heads and their contents were thoroughly explained and discussed in classes conducted for that purpose.

Under the established system, the property records department not only maintains the actual inventory record and prepares certain reports but also has the responsibility for numbering and tagging general equipment. How this is done, with the aid and cooperation of other departments in the company, is explained as follows:

Ordering and Purchase of General Equipment: All purchase requisitions processed by the purchasing department are routed daily to the property records department for verification of work order numbers and detection of capital charges erroneously made against operation and maintenance functions. The property records department is required to check such purchase requisitions against the approved construction budget and notify the budget and audit division

of purchases requested outside of the approved budget. All purchase requisitions are returned to the purchasing department for issuance of the purchase order.

The purchasing department prepares purchase orders for all approved requisitions. Purchase orders bear the requisition number and the responsibility area and function or work order. The fourth copy of the purchase order constitutes a receiving report copy for all materials ordered. All fourth copies of purchase orders are routed daily to the property records department after the orders have been placed.

A property records department clerk reviews these orders, checking the propriety of work order and function numbers shown on the orders; withholds all receiving reports pertaining to the purchase of general equipment, and returns the nonproperty receiving reports to the purchasing department for further routing to appropriate receiving locations.

Assignment of Numbers to General Equipment: The general equipment numbering procedure begins with the receiving report copy of the purchase order withheld by the property records department. The property records department clerk must now follow certain logical steps in the processing of each receiving report.

A number is selected for each item of equipment shown on the receiving report. Six digit numbers were selected to afford an almost inexhaustible supply of numbers. The number assigned must be drawn from four groups of numbers, each for a different type of equipment.

Numbers 100001 to 499999, preprinted on brass tags, are assigned to as many items of equipment as possible. A brass tag was chosen for numbering equipment as it was felt they were the most durable and relatively simple to attach.

Numbers 500001 to 799999, preprinted on decals, are assigned to items of equipment which can bear an identification plate to which it would be impractical to nail, solder or wire a brass tag because of possible damage to internal mechanism or casing material. Typical items would be adding machines, calculators, typewriters, transcribing machines, etc.

Numbers 800000 to 899999, with no identifying tag, are assigned to radio communication equipment alternators. The number assigned to each unit would be an 800000 number including the number of the car or truck in which the unit is installed. For example, an alternator installed in truck #2214 would be assigned number 802214.

Numbers 900001 to 999999, with no identifying tag, are assigned to all items of equipment, other than alternators, to which it would be impossible to attach a brass tag or a decal. Typical items would be any equipment that is made of glass, china, cloth or of other fragile material or any item that may be subject to the application of heat. Such units of equipment are usually of the type used by home service, cafeteria, laboratory or hospital divisions.

Use preprinted cards

A "Report of Equipment Numbered" form is partially prepared for each item of equipment ordered. Only the purchase order number, the equipment number and a brief, clear description of the item is entered on this form. At the same time, a preprinted IBM card is used to record in longhand certain information, some of which is subsequently keypunched on the same card. At this stage, only the data that is known to be final can be written on the card. This information falls into two categories.

(1) That which will later be keypunched: company number (brass tag or decal); account-utility plant account number to which the final charge will be closed; item code number (from field reporting manual); punched description of equipment which is limited on the IBM card to 32 characters.

(2) That information which is entered only for reference and will not be keypunched: detailed description showing vendor, purchase order number, work order number and department and person ordering the equipment.

The brass tag or decal for the number selected is now removed from the file where it has been kept in a small envelope bearing the tag or decal number. When a brass tag is to be used, the fastening devices appropriate for use on the type of equipment ordered are placed inside the envelope and the envelope is sealed. Fastening devices referred to are drive screws for metal, drive nails for wood, seal wire, etc.

The "Report of Equipment Numbered" and the numbered envelope including the brass tag or decal are stapled to the lower left hand corner of the receiving report (fourth copy of the purchase order) which is then returned to the purchasing department for routing to the correct receiving location to which the vendor has been directed to deliver the equipment.

The IBM card, partially prepared, is filed by number in a section of a desk file labeled "Equipment Ordered—Not Received".

Some time will elapse between the date the equipment is ordered and the date of delivery at the specified receiving location.

Attaching Identification Tags to General Equipment: When the piece of ordered equipment arrives at the receiving location, the person responsible for checking it in will find attached to the receiving report the related partially completed "Report of Equipment Numbered" as well as the envelope containing the brass tag or decal. Unless the equipment is damaged or otherwise found to be unacceptable, he attaches the brass tag or decal.

Persons responsible for attaching identifying tags have been given simple rules which must be followed such as: tags must be in plain view; tags must be attached immediately upon receipt of equipment; tags must be placed in standard locations.

After attaching the tag, he then completes the "Report of Equipment Numbered" by entering thereon the additional information required, such as serial number, model number, and location where equipment is to be used.

He signs his name as "Numbered By", enters the date of receipt and returns the completed report to the property records department.

General Equipment Received and Unbilled: Upon receipt of the completed "Report of Equipment Numbered" the property records department clerk further completes the IBM punch card by transcribing from the "Report of Equipment Numbered" such data as location —area and location code per field reporting manual.

The location where equipment is to be used has not been entered prior to this time because it is possible that there may be a last minute change in plans as to the specific person and location to which such equipment will be assigned.

Serial number is added to the punched description and date received is added to the detailed description.

A.G.A. publishes guide to gas company PR

a PAR activity

HOW TO DEVELOP an effective, organized approach to gas company public relations is outlined in "PR and You," new 24-page illustrated booklet produced by American Gas Association.

"PR and You" is believed to be the first booklet of its kind devoted specifically to public relations practices of American and Canadian gas companies. Advantages of an organized program are discussed and an eight-step approach to public relations presented for both small and large gas companies. Included in the contents are a sample program and a 31-point public relations check list for management and supervisory personnel.

A public information activity of the A. G. A. PAR (Promotion, Advertising and Research) Plan, "PR and You" is the second in a series of how-to-do-it booklets for member gas companies. "Open House," a discussion of how to win community friends through a plant tour program, was published last fall. Copies of both booklets can be obtained free of charge from the Public Information Bureau, American Gas Association, 420 Lexington Ave., New York 17.

The IBM card is still incomplete and is filed numerically in a second section of the same desk file as "Equipment Received and Unbilled".

General Equipment Addition to Utility Plant in Service: Invoice costs covering equipment purchases are charged to blanket work orders set up for this purpose under construction work in progress—Account 102. Once a month machine accounting prepares in duplicate an IBM report titled "Current Additions to Work Orders" which lists such purchases charged to each work order under the various areas. The original is sent to the property records department and the second copy is forwarded to the responsibility area head.

Blanket work orders are closed from Account 102 to the appropriate utility plant account in the month following that in which the charge is made. When the charge for the item of equipment appears in the "Current Additions to Work Orders" listing, the appropriate IBM card is removed from the file and completed by addition of the following data to be keypunched: Year purchased; amount—cost of item of equipment.

Additional detailed information such as "Purchase Reference", or accounts payable voucher number which includes the month of purchase, is written in the space provided on the IBM card.

The IBM card is then filed in a third section of the desk file by number within blanket work order numbers. This temporary filing position is maintained until such time as the book entry has been proved to be correct and in balance. When this is proved, the IBM cards are sent to machine accounting for keypunching, verification and interpretation. The interpreter prints the punched information across the top of the card for easy reading when consulting the file. Machine accounting then runs a list of additions for the month by equipment number within utility plant accounts which must check with the total additions to each account for the month per the books.

The IBM cards, now complete, are filed by the property records department in a fourth section of the desk file by number as "Additions for the Current Year" until the end of the year when the cards are checked with the additions to utility plant in service for the year per books, to be certain that no card has been removed or lost. The cards are then filed with all other cards for general equipment in numerical sequence.

Transfer and Retirement of General Equipment: A "General Equipment Report" is used to report to the property records department the removal of equipment from service or interdepartmental transfers. At the end of each month, the IBM cards for each item of equipment to be retired, per the "General Equipment Reports" are removed from the file and sent to machine accounting for listing by accounts. The value of such equipment shown on the listing is retired from the utility plant account by journal voucher. IBM cards so removed are noted as to date retired, retirement journal voucher number and filed separately as "Property Retired—Current Year". At the year's end, these IBM cards for retired equipment are balanced to the retirements for the year per books. The retired equipment cards are then filed in a "dead" file for future reference.

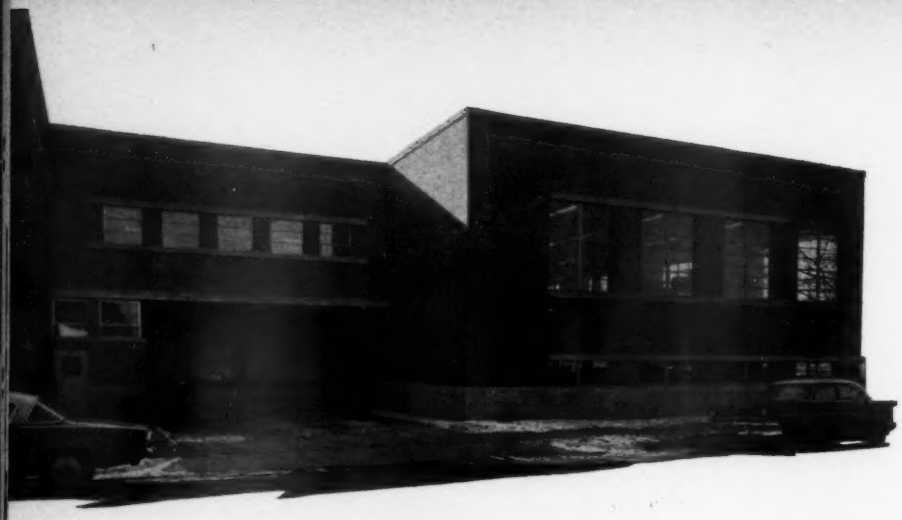
Transfer of general equipment from one location to another is reported to the property records department by preparation of a "General Equipment Report" by the responsibility area head originating the transfer.

Transfer from one location to another merely calls for removal of the card from the file, preparation of another card indicating the change in code number in the keypunched data on the card and recording the former location in the space provided. The two cards are then sent to machine accounting for repunching and verification. The cards are returned to the property records department where the new card is compared with the old, placed in the file and the superseded card destroyed.

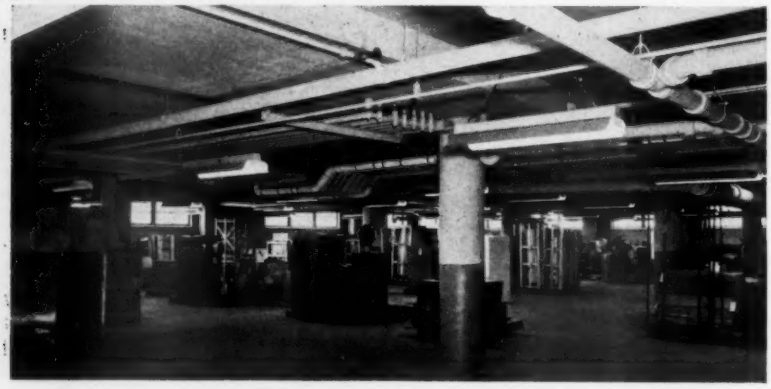
General Equipment Reports at Year's End: The general equipment file of IBM cards is now complete; all cards being filed by equipment number. Machine accounting can now provide the information punched into the card in any arrangement desired. Reports currently prepared in duplicate consist of the following:

(1) By equipment number—this listing is invaluable for associating equip-

(Continued on page 42)



Lab opens new wing



Lower level of new north wing at A. G. A. Laboratories in Cleveland is used to uncrate and store newly-arrived appliances for testing. Placed on dollies or pallets, new models are quickly and easily located for moving to upper level for testing procedures

This central heating testing section on upper level of new wing can accommodate 23 units for simultaneous testing. Each testing station is fully equipped with all test gases together with water and electric services. Quick change-over is possible as needed

Expanded modern facilities of the A. G. A. Laboratories, almost tripled in size during the last 10 years, are in full operation today at both the Cleveland laboratory and the Pacific coast branch.

Latest plant expansion to be placed in use was at Cleveland where a 17,800 square foot, two-level building addition was erected on the north side of existing facilities and occupied late in December, 1954. In addition to testing and storage space, it incorporates a receiving dock and an 800 square foot mezzanine over the dock for future expansion of departmental offices.

The new wing provides 8,500 square feet of floor area for the testing of central heating gas equipment, which currently is accounting for approximately 40 percent of all appliances submitted for approval tests.

Twenty-three central heating units can be under test at one time in this modern central heating testing section. Each testing station is fully equipped with all test gases employed by the Laboratories together with water and electrical services. These testing stations have been arranged to permit quick change-over from one test gas to another and are provided with appropriately-sized wet test meters for accurate gas measurements.

The ceiling height of the central heating testing center is 22 feet to permit dissipation of the heat developed and to provide sufficient head room for the testing of such units. Fluorescent lighting is used and provides a designed brightness

(Continued on page 48)

Comic skits aid customer relations

Homemade comedy is tickling the ribs of Brooklyn Union Gas Company employees and at the same time getting across some basic lessons in customer relations.

Early last year, the gas company's management came to the conclusion that Brooklyn Union's public relations were being advanced or retarded more than 10,000 times a day—every time a company man or woman comes into contact with a customer. This startling figure takes into account only the activities of salespeople, servicemen, special crews, collection and branch office personnel. It doesn't even begin to reflect the personal dealings with customers that are transacted every day over the telephone.

These findings helped to intensify interest in organized customer relations training. Soon after, the Customers Service Department launched a novel "Booster Program" to convert every customer into a "booster" for the company. Informal group discussions, slogans, displays, skits, contests and other ingenious approaches were developed to dramatize proper handling of customer calls and contacts. Approximately 700 Customers Service employees are now participating in the continuing program.

The "Booster Program" places heavy emphasis on the economic facts of life. Employees are given a clearer picture of the company's operations, how much natural gas is used today and how much will be needed in the future. Essay contests and group discussions spur employees to develop positive suggestions for improving service and winning friends.

Amateur dramatic troups of the Queens Service Section and the Orders and Records Section have produced comedy skits that won "raves" from attentive audiences.

Queens Service personnel dramatized "The Right and Wrong Approach to Customer Relations," a rollicking skit conceived and directed by Superintendent Herbert F. Kerrigon and the late Assistant Superintendent Kenneth E. Kiernan.

Illustrating the wrong approach, a customer and an "obnoxious" serviceman play out an hilarious act in which the serviceman commits 26 errors of conduct involving personal and public safety and customer relations.

(Continued on page 44)

This Brooklyn Union clerk is demonstrating to an interested audience how an irritable answer over telephone can alienate customer goodwill. Later in customer relations training skit another demonstration will show how wrath can be turned into a sales lead

In another Brooklyn Union skit, an "ideal" serviceman takes time out to explain the workings of a burner to a dissatisfied "customer" during routine service adjustment

First in a series of "Follow the Leader" stories on safety programs conducted by companies who are 1955 winners of A.G.A. Accident Prevention Awards

Pace-setters in safety

Doing it the *safe* way is always given foremost consideration when employees of Texas Eastern Transmission Corporation start to do any job. Safety is a part of all activities in this company which is one of the nation's major transporters of natural gas, having more than 4,800 miles of big diameter pipeline.

Management and workers alike are justly proud of achievements that have been obtained in the field of safety. Tangible proof of the success of Texas Eastern's safety program is found in the recognition the company has received for its effective training program and resulting records.

Texas Eastern has recently received two top safety awards—one being the Safety Achievement Certificate from the Accident Prevention Committee of the American Gas Association; the second the Award of Honor, the highest award given by the National Safety Council. The A. G. A. award was given for Texas Eastern's "noteworthy record in employee accident prevention," while the National Safety Council presentation was for "an outstanding safety record." These are only two of numerous awards presented to the company during the past year.

Members of the industry know that these awards are not lightly given. They must be earned and the company can deserve them only as a consequence of a workable safety program; a program based on premises including (1) careful and intelligent planning; (2) cooperative consideration from top management; (3) employee interest in the program.

Texas Eastern's safety department is part of the company's employee relations department, with policies being established by top management. George T. Naff, president of the company, cooperates fully with executives concerned with administration of safety activities.

The man who has assumed a large share of the load of seeing that policies are carried out is E. R. Cunningham, vice-president in charge of operations. H. M. Rogers is director of employee relations, and the company's safety director is E. E. Edmondson, Jr. Five safety engineers located throughout the company's system are charged with the responsibility of seeing that the safety program is put into practice.

Texas Eastern executives do not relegate the company safety program to a secondary position. Each assumes responsibility for helping avoid personal in-

Texas Eastern's safety policy is implemented by this group: (left to right) H. M. Rogers, director of employee relations; safety engineers R. Scott, W. Duran, G. Kester, H. Williams, W. A. Dwire, R. Jones, E. Evans, E. E. Edmondson, Jr., safety director

Presentation of Safe Driver Awards, an integral part of T Eastern's safety program, is being made to group of wi by E. R. Cunningham, vice-president in charge of opera

juries or accidents of employees within his jurisdiction. In turn, supervisory personnel are held responsible for seeing that safety practices are enforced.

In Texas Eastern's operations department, the general superintendent and his division managers are held fully accountable for accidents within the scope of their operational activity. "When we put safety on a personal basis this way," says Mr. Cunningham, "we find that employees reciprocate with a personal interest we could not get in any other manner. Supported by their interest we feel we have hit the 'jackpot' of a successful safety program."

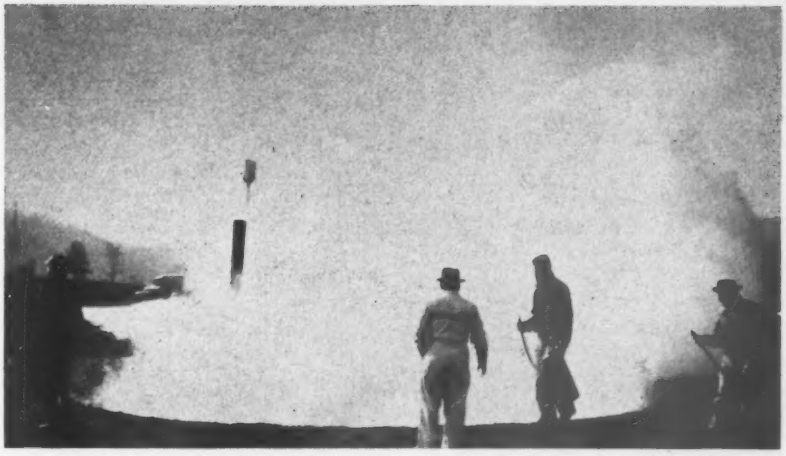
"Here at Texas Eastern," Mr. Cunningham comments, "we've tried to make safety an essential commodity, but still recognize it as something which must be sold. Our safety engineers go out and sell safety to our employees 24 hours a day. And after the sale has been made they keep right on plugging to see that the safety policy doesn't lapse. Our employees must consider safety a good buy, because we've been selling a lot of it."

Division engineers

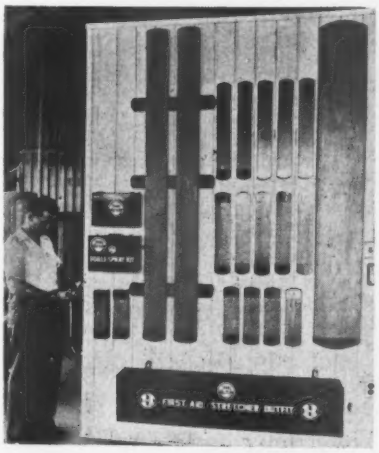
Each of the company's five divisions has its safety engineer who carries out the program outlined for him by the safety director. The safety engineer is, of necessity, a finely trained technician. Not only must he analyze unsafe conditions, but he must also detect unsafe attitudes detrimental to safe, efficient operations. As a member of the employee relations department, this engineer works closely with all supervisory personnel in each company division.

One of the important phases of this liaison work with company supervisors is participation in foremen's meetings. Held every 60 days, these meetings are attended by all foremen in the 14 states through which the Texas Eastern pipeline system passes. Although the meetings take the form of "on-the-job" instruction sessions covering numerous matters, they are also partly "safety" meetings. Latest safety techniques are discussed and exhibited and each supervisor, as well as other key company personnel, receives copies of the minutes of each meeting.

On a smaller, but more personal scale, are the safety meetings held at each compressor station every month. Compressor station employees act as chairmen of the meeting with the position rotating from person to person. Here again, minutes



Company fire drills, as in scene above, are held at frequent intervals to acquaint company personnel throughout system with all types of fire fighting equipment and to pass on experiences



First aid equipment shown here is now standard at all Texas Eastern installations

A. G. A. Safety Award presented to Mr. Edmondson by E. H. Eacker at convention

Mechanical man built by Texas Eastern personnel is used by safety engineer (second from left) in on-the-job instruction of compressor station personnel in proper way of lifting heavy objects

are kept for distribution to supervisory personnel.

All suggestions or recommendations from station personnel receive a personal answer from the department head involved. The result is a closer, more effective relationship between executive personnel and employees in the field, and it is part of the safety engineer's job to see that this relationship is maintained.

Vital to any successful safety program is the maintenance of records of all injuries, including non-lost time as well as lost time mishaps. Texas Eastern safety engineers make accurate and complete records which, in turn, are carefully analyzed. A complete report is sent to each division headquarters every month. Careful study of such reports enable safety personnel to accurately predict where possible future trouble could develop, and to work out preventive maintenance measures to avoid it.

Valuable to the company from the insurance standpoint are complete and detailed reports of all automobile accidents. In this connection, Texas Eastern's company-developed Safe Driver Award Program has done much to lower the organization's vehicular accident rate. This has been accomplished by recognizing safe drivers in the company with a driver award card for each year completed without an accident, with more substantial awards being given at the end of three and five consecutive years of safely driving company equipment. Awards are made personally by the vice-president in charge of the department.

The way in which accidents are determined as "chargeable" or "not chargeable" is unique at Texas Eastern. In each division and in the general office there is a committee consisting of four regular employees and one executive, the latter voting only in case of a tie. These committees judge every accident and their decisions are final as to whether or not an accident is charged against a driver's record.

Experience at Texas Eastern has shown that conscientious, healthy employees make safe workers. Applications for employment, therefore, receive rigid and careful scrutiny. Each applicant selected is given a thorough pre-employment medical examination. Physicians giving pre-employment examinations are selected by division safety engineers, approved by the safety director and the insurance carrier. The physician receives a careful screening on the basis of past industrial experience, community standing and ability. No company physician has the authority to deviate from the standards outlined in the "Guide for Physicians in Making Physical Examinations," issued to him by Texas Eastern.

Mandatory training

A good portion of the safety engineer's time is devoted to directing U. S. Bureau of Mines First Aid Training Courses. Texas Eastern makes it mandatory that each field employee receives this training course. On alternate years, two employees are selected from each compressor station to travel to division headquarters to receive instructions in the Bureau of Mines First Aid Instructors Course and training in "How to Conduct the Safety Meeting." Successful completion of the course means that one employee will act as first aid instructor and the other as safety meeting chairman at his station.

The problem of fire hazards at company installations is met by holding frequent inspections of fire equipment, by repeatedly scheduling extensive fire drills, and by appointing one employee at each compressor station as a fire warden. The warden is trained by the division safety engineer in making monthly inspections of all station fire equipment. The warden also plays an important role in conducting station fire drills. Through the wardens' reports, fire drills and inspection of fire equipment, the safety engineer is able to make recommendations for meeting fire control problems throughout the system. Such recommendations might include one such as that dealing with fire fighting training which recently came into the office of the safety director from one of the company safety engineers.

After completing the training course through the entire division, during which lectures were given by representatives of fire fighting equipment companies, the safety engineer recommended that certain types of fire extinguisher nozzles be replaced with longer ones, thus giving the extinguisher greater effectiveness. This recommendation was based on actual experience of using the extinguisher on a test fire.

The safety engineer also suggested that certain types of extinguishers be replaced with more modern ones, and that one type of extinguisher be placed in a given spot because of its proved effectiveness in that particular area. Good suggestions followed by testing in the field have resulted in noteworthy safety advances.

Texas Eastern believes that it has a good safety program, but the company is not content to slacken efforts to make it better. For the success of its program in the past, credit must go to management, supervisors and every worker alike. Each has recognized his responsibility and carried his share of the load.

Commenting on this statement, Texas Eastern's president, George T. Naff has said, "In my opinion a safety program dedicated to helping employees to protect themselves is invaluable. To that end the company must be willing to furnish adequate personnel and provide time for the safety program. Texas Eastern is proud of its employees for having established an enviable safety record."

A.G.A. publishes second edition of piping manual Z21.30

A SECOND EDITION of American Standard Installation of Gas Piping and Gas Appliances in Buildings, Z21.30, has been published by the American Gas Association Laboratories. Publication as an American Standard followed approval by the American Standards Association, Inc. on November 29, 1954.

The standard, published in pocket size, forms a valuable guide for appliance installers, utility personnel, city code authorities, architects and many others. It incorporates the latest piping and installation practices proved to be acceptable by experience in the field. Sections of the standard contain general provisions for gas piping and appliance installation, requirements covering installation of specific types of gas equipment, and the venting of gas appliances.

The text has been adopted by the National Fire Protection Association and the National Board of Fire Underwriters and is the same as that published in NFPA No. 54, 1954 and NBFU No. 54, 1954.

Copies of American Standard Installation of Gas Piping and Gas Appliances in Buildings, Z21.30-1954 may be obtained from the A. G. A. Laboratories, 1032 East 62nd St., Cleveland 3, Ohio, or from the Association Headquarters for 25 cents each.

1955 pipeline research plans

The continual quest for improved technology in natural gas production, transmission and storage yields ideas and proposals for research. Each year the Pipeline Research Committee screens and analyzes the various proposals and plans the research program in these fields for the coming year.

For 1955 the Pipeline Research Committee, under its newly elected officers, J. L. Thompson and Baxter D. Goodrich, chairman and vice-chairman respectively, has recently proposed a research budget of over $300,000 for this important research which will include continued and new projects. Mr. Thompson is general superintendent, Michigan Wisconsin Pipe Line Co., Detroit, Mich., and Mr. Goodrich is vice-president and chief engineer of Texas Eastern Transmission Corp., Shreveport, Louisiana.

J. L. Thompson, general superintendent, Michigan Wisconsin Pipe Line Co., is 1955 chairman of Pipeline Research

Group's vice-chairman for 1955 is B. D. Goodrich, vice-president and chief engineer, Texas Eastern Transmission

Transmission

Transmission problems are being attacked in 1955 with research projects continuing on girth welding, reinforced branch connections, suspensoids in natural gas, and line pipe research.

Girth welding research has been concerned with the investigation of base-metal cracking adjacent to a weld as a function of chemical composition of the line pipe and ambient temperature of the pipe during the welding process. It is expected that this work on the improvement of girth welding will be completed in 1955 when the final phase of the program on pipe pre-heating is concluded.

Studies on unreinforced and reinforced branch connections have yielded significant and important results. Since excessive stresses in addition to the normal hoop stress may be developed on branch connections, the objective of this work is to develop procedures and techniques which will safely limit these additional stresses which are characteristic of branch connections. It is anticipated that this work will be completed in 1955.

The object of the work on suspensoids in natural gas is to develop instrumentation for qualitative and quantitative analysis of suspended matter. These analyses are potentially quite valuable to the improvement of scrubber and other pipeline operations.

On line pipe research there is a laboratory phase and a field test phase. The laboratory phase, dealing with notch toughness measurements of 213 heats of steels currently being used in gas transmission lines, included the testing of nearly 3,000 samples. This work has been completed and a draft of a final report is now being reviewed.

The second phase has included three full-scale gas pipeline tests carried out as a part of an investigation of factors involved in the fracture of line pipe. In each of the three field experiments a 30-foot length of 30-inch pipe, installed in the middle of a test pipeline, was tested to destruction. The analysis and correlation of the laboratory and field test data will be of great value to the natural gas industry.

Gas Measurement Committee Report No. 3 is now being published and will be available early this Spring. Data on larger diameter and heavier wall thickness metering runs, new material relating to specifications and tolerances, and a method of supercompressibility factor evaluation have been included in this new and comprehensive Report No. 3.

In order to conform with present practice the pressure base for the orifice factors has been changed from 14.4 to 14.73 psia; however, a table is given which expedites the computation of gas flow in terms of any contractual pressure base. Report No. 3 will be a useful and valuable contribution to the gas industry.

In conjunction with Report No. 3, operating tables of supercompressibility factors are being computed at the Univac Computing Center in New York City by Remington-Rand, Inc. The scope of these tables is summarized below:

Variable	Range
Temperature	0— 180 F
Pressure	0— 3000 psig
Specific Gravity	0.554—0.750
Carbon Dioxide Content	0— 5.0 mol per cent
Nitrogen Content	0— 12.0 mol per cent

(Continued on page 44)

Gas heating to increase

By BUREAU OF STATISTICS
American Gas Association

During each of the next two forthcoming Summers an additional 1,250,000 homes throughout the nation will install equipment to permit them to heat with gas bringing the total number of gas-heated homes to 16,500,000 by the beginning of the 1956-57 Winter season.

These totals are indicated in the most recent American Gas Association Gas Househeating Survey, the results of which have just been released by the Bureau of Statistics.

The number of expected incremental gas heating customers is quite similar to the totals indicated in similar previous studies and represents a continuation of the post-war trend in the preference of the American public for gas heat. This wide-spread acceptance and demand has most favorable implications for the utility industry in view of the effectiveness of gas heating in improving the frequency of installation of other gas-consuming appliances within the household.

The most significant gains during the next two heating seasons will occur in the East North Central states where approximately 350,000 new heating customers will be added each year, thus increasing the number of heating customers in this area by 27 percent. The addition of 342,000 gas-heated homes in two years will increase heating customers 22 percent in the Middle Atlantic area; New England, starting from a relatively low level of gas heating, will add 113,000 users, equivalent to an 89 percent advance.

It is expected that 56 percent of the new installations during the next two Summers will be attributable to the construction of new dwelling units, with the remainder representing conversions of existing homes. One year ago, the industry expected only 52 percent of new heating installations for the same Summers to occur in new dwelling units; the change reflects the unexpectedly high rate of new housing activity evident during 1954 and which promises to continue at least during the major portion of 1955.

The only regions where conversions of existing dwelling units continue substantially to exceed new homes as a source of additional heating customers are New England and the East North Central areas. The recency of natural gas introduction in the former area, together with the relatively unfavorable price of gas compared to competitive fuels, has not yet permitted the development of any substantial amount of gas heating business. This fact, combined with the low rate of population growth and new housing, causes the existing home market to be the more important one.

The need for restrictions on heating installations because of temporarily inadequate gas supplies has resulted in significant backlogs of heating applications among existing dwellings in the East North Central states, thus accounting for the predominance of this category. In the entire western part of the country and particularly in the Pacific states, the predominance of new housing in the heating market is most evident. In these areas saturations are already so high that relatively few existing homes exist as gas conversion prospects.

Nearly 1,100,000 new heating customers were added to gas utility lines for service during the 1954-55 heating season. This raises the total number of heating customers currently being served by the industry to 14,000,000. More than 3,000,000 of these are located in the Pacific states with more than an additional 2,500,000 being located in each

(Continued on page 43)

EXISTING AND POTENTIAL GAS HEATING CUSTOMERS SERVED ON DECEMBER 31, 1954
(Thousands of Customers)

Region	Total Residential Customers	Househeating Customers	Potential Househeating Customers
United States	26,105	13,991	21,792
New England	1,535	127	313
Middle Atlantic	6,774	1,549	5,568
East North Central	5,946	2,537	4,614
West North Central	2,029	1,391	1,747
South Atlantic	1,851	952	1,646
East South Central	978	736	952
West South Central	2,776	2,761	2,776
Mountain	784	734	751
Pacific	3,432	3,204	3,425

EXPECTED NEW GAS HEATING INSTALLATIONS
(Thousands of Customers)

Region	For 1955-56 Heating Season			For 1956-57 Heating Season		
	Total	New Dwelling Units	Existing Dwelling Units	Total	New Dwelling Units	Existing Dwelling Units
United States	1,243	701	542	1,258	690	568
New England	54	12	42	59	12	47
Middle Atlantic	173	78	95	169	77	92
East North Central	343	108	235	352	111	241
West North Central	115	61	54	124	51	73
South Atlantic	87	63	24	85	63	22
East South Central	51	34	17	48	34	14
West South Central	166	117	49	162	115	47
Mountain	66	49	17	71	56	15
Pacific	188	179	9	188	171	17

A.G.A. host to world conference

The American Gas Association will be host to the Sixth International Gas Conference to be held in New York next Fall. The Conference will be held September 26 to 30, 1955, with plenary and section meeting of the International Gas Union to be held at the Hotel New Yorker.

The purpose of the International Conference is to take stock of the present status of gas science and technology; and to facilitate the meeting and exchange of ideas and experience among men who in the different parts of the world are daily faced with similar problems.

The actual task of preparing for the Conference is being handled by A. G. A., with a committee headed by E. W. Doebler, president, Long Island Lighting Co., in charge of arrangements.

A program including individual papers and national reports, as based on the recommendations of the officers and council of the International Gas Union, has been developed.

During the Conference, a formal banquet and entertainment will be held for the delegates, who on September 28 will also be guests at a luncheon sponsored by Consolidated Edison Company of New York, Inc. Other activities scheduled during the Conference week are a visit to The Brooklyn Union Gas Co., a field trip to the Harrison, N. J., works of Public Service Electric and Gas Co., and tours of the United Nations facilities.

Tours of technical and touristic interest have been planned to take place after the Conference. Participants desiring to make special visits of industrial and tourist interest are asked to make their requests well in advance of the Conference. Such requests should be addressed to Bruce A. McCandless, Conference secretary, International Gas Union, American Gas Association, 420 Lexington Avenue, New York 17, New York.

It is suggested that delegates from abroad inquire about purchase of their transportation for tours of technical and touristic interest in their home countries. In this way they will not be charged the United States Federal Tax and furthermore the purchase price of

(Continued on page 48)

A.G.A. Committee on Arrangements

E. W. Doebler, chairman

E. W. Doebler, president, Long Island Lighting Co., Mineola, New York, **chairman**

George S. Young, president, The Columbia Gas System, Inc., New York, New York, **vice-chairman**

Davis M. DeBard, vice-president, Stone & Webster Service Corp., New York, New York, **vice-chairman**

Charles E. Bennett, Pittsburgh, Pennsylvania

Walter S. Byrne, general manager, Metropolitan Utilities District, Omaha, Nebraska

A. W. Conover, president, Equitable Gas Co., Pittsburgh, Pennsylvania

H. C. Forbes, executive vice-president, Consolidated Edison Company of New York, Inc., New York, New York

Alexander Forward, New York, New York

N. Henry Gellert, president, Seattle Gas Co., Seattle, Washington

Frederic O. Hess, president, Selas Corporation of America, Philadelphia, Pennsylvania

F. X. Mettenet, vice-president, The Peoples Gas Light and Coke Co., Chicago, Illinois

J. H. Moore, chairman, Moore Publishing Co., Inc., New York, New York

Clifford E. Paige, Litchfield, Connecticut

M. H. Parkinson, executive vice-president, The United Gas Improvement Co., Philadelphia, Pennsylvania

W. F. Rockwell, Jr., president, Rockwell Manufacturing Co., Pittsburgh, Pennsylvania

C. A. Schlegel, vice-president and gas sales manager, United Engineers & Constructors Inc., Philadelphia, Pennsylvania

Edward J. Tucker, vice-president, The Consumers' Gas Company of Toronto, Toronto, Ontario, Canada

Bruce A. McCandless, secretary, American Gas Association, New York, New York

Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant to the Personnel Manager
Philadelphia Electric Company

● **Are you planning ceremonies for ground-breaking or open house?**—The Enamelstrip Corporation invited all of its 100 employees to share in the ground-breaking ceremonies for a new plant in Allentown, Pennsylvania. They were asked to bring along their families and a spade.

To assure full participation, 100 treasure chests were buried at the plant site. Each chest contained a silver dollar and a key. One of the keys opened a master chest full of candy for the youngsters and 25 more silver dollars for the lucky finder. The idea must have clicked, because more than 350 men, women, and children turned out.

● **Older employees are productive workers**—We now accept retirement at age 65 as normal; however, the experts continue to give us information about the value of older employees.

DuPont reports that a recent plant survey shows time lost due to illness is less among workers over 55 than among those 24-29.

Bureau of Business Management at The University of Illinois reports that workers over 60 years old were doing their job as well and in some respects better than younger workers in industrial and managerial positions. Older employees measure up on all counts including work volume and indications were that at least one out of four workers over 60 could go on working indefinitely. Supervisors also reported good results with new employees 50 years and over. Cost of pensions now would prohibit this practice, but it is something to remember should an emergency tighten the labor market.

● **New way to show how your company's income dollar is distributed**—Cutting up the pie and splitting the greenback have been overworked. A new idea shows cartoon characters playing a hypothetical marble game. In the ring are 100 marbles for which the employee knuckles down to shoot for his share and he gets his shot while there are still lots of marbles in the ring. It makes a good comparison for when Mr. Shareholder gets his turn. Emphasizes that the stockholder comes last—after Father Time (depreciation), Mr. Banker (loan interest), Uncle Sam (income taxes), and the suppliers.

● **Engineers are human, too!**—A survey by Stevens Institute of Technology does much to refute the caricature of the engineer as a beetle-browed, pipe-biting introvert who rarely peers through his thick lenses at anything more exciting than a table of logarithms. Stevens found that 23 percent of their graduates actively participate in classic or creative arts such as music, drama, painting, sculpture, or writing. And more than half of the entire alumni body takes part in civic activities or work with welfare organizations, school boards, youth and church groups.

It could be this is a reflection of the increasing breadth of the engineering graduate's job responsibilities in industry.

● **What can we do about Communists in industry**—Albert J. Tuohy, director of security at Republic Aviation Corp., Farmingdale, Long Island, has written an article of his experience in the October, 1954 *Factory Management and Maintenance* concerning this subject.

He discusses not only Communists but also other security risks. He indicates that some patriotic Americans who talk too much can be a greater security risk than Communists.

His article discusses the four ways that they receive information concerning hints of un-American activities in the plant, how they evaluate the facts, what they do about the accused, and what other actions are taken.

● **Court decisions**—*Joint employers*—It often happens that an employee will work part of a week for one employer and part for another. If his total hours exceed 40, the question arises whether he must be paid overtime for such hours. A recent U.S. District Court decision (Mitchell v. Thompson Materials and Construction Co., et al., 55 ALC 82) answers this question:

> The general rule is that, if an employee works during a week for two or more employers who have no connection between them, none need pay overtime although the cumulative hours exceed 40 a week, so long as the employee did not work over 40 hours for any one of them.

Jobless pay denied in contract breach—An employee who lost her job, pursuant to terms of a union contract, because she got married is held ineligible for unemployment compensation on the ground that the termination of employment was voluntary.

A contract clause effective from May, 1947 between Elliott Company and the United Steelworkers frowned on employment of married women, and provided specifically that any unmarried woman then employed who subsequently married would be forced to resign. The woman involved here took her vacation last year, got married, and was refused permission to return to work after her vacation period was up. Reason was the contract clause.

The Pennsylvania Bureau of Unemployment Compensation at first held her eligible for unemployment compensation on the ground that her unemployment was involuntary—she was forced to resign because of the employment policy. But this ruling was reversed by a referee, who held that as a member of a unit represented by a valid bargaining agent she was bound by that agent's contract "with respect to conditions of employment."

The Pennsylvania Superior Court agrees with this conclusion, noting that (1) the contract was negotiated on behalf of this individual and all other members in the unit, (2) the employee raised no objection to the contract's provisions "during the course of her employment," and (3) it was testified that the sole reason for her termination was compliance with the contract clause. Compensation consequently is denied.

● **Arbitration decisions**—*Resistance to changeover*—What are an employer's rights and responsibilities when he changes his production methods?

In this decision, the contract stated that promotions would be based on fitness, ability and seniority. Seniority was to be a determining factor only when fitness and ability of job-bidders were equal. After a new million-dollar plant was built, four operators were required in initial production processes. The company tested nine applicants for the jobs. Only two of the most senior employees placed in the first four grades, but the company announced it would fill the jobs with the four who placed highest. The union brought the matter to arbitration, claiming two men's seniority was being ignored.

The company stated that it was willing to recognize seniority in job advancements and pointed out that in most cases, promotions were made on that basis. Because of the potential loss a misfit might cause in the new operation, the company claimed that its usual selection method had to bow to a more scientific procedure.

Meredith Reid, the arbitrator, held for the company. He found the aptitude examination simple, fair, and reasonable. Management had a right to exercise its judgment in choosing operators for the highly complex new operations. The union's insistence on straight seniority contradicted the contract because seniority was only a determining factor when fitness and ability were equal (Stauffer Chemical Award, 6 ALAA).

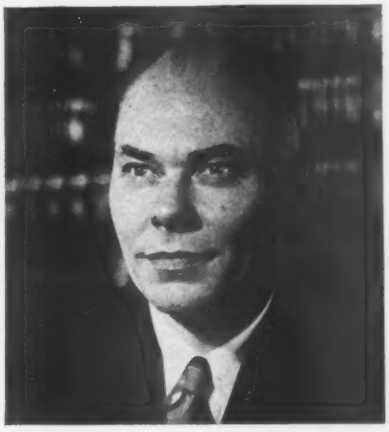
The education of employees about the advantages of technological changes may avoid many of the problems that accompany such changes. Hiring methods may be improved now so that the type of man you want will be available to bid for the new jobs.

● **NLRB rulings**—*Watchmen as guards*—The National Labor Relations Board has ruled that watchmen should be excluded from a unit of workmen when they patrol the area at night, for the purpose of protecting their employer's property from fire and theft. (See Miller Manufacturing Company and Teamsters, AFL, et al.; Case Nos. 5-RC-1407, 1408; November 17, 1954.)

Three-day annual conference of gas, electric utility accountants will discuss latest developments in their field

Accountants plan annual meet

A. Paul Thompson, Iowa Power and Light Co., will speak on cost control in accounting



Research on electronic accounting will be discussed by Dr. Howard A. Aiken, Harvard

Inspirational keynote will be set by Gene Flack, Sunshine Biscuit advertising director

The Conrad Hilton Hotel in Chicago will be the scene of the 1955 National Conference of Gas and Electric Utility Accountants for three days, beginning on April 25th. Here will gather top officials, officers, accountants, numbering over 1,000, from gas and electric utility companies in all sections of the United States and from Canada. They will meet to discuss the many challenging problems that the industry is facing today in the field of accounting, and they will exchange ideas and experiences bearing on all phases of accounting department activities and operations.

Industry leaders and national authorities will be teamed as participants on the program. They will present the latest thinking and information on the newest developments in utility accounting techniques.

The two associations, the American Gas Association and the Edison Electric Institute, through the activities of their respective Accounting Sections, have, over the years, contributed immeasurably to the advancement and development of utility accounting. The annual accounting conference of the two associations is the high point or climax of these committee activities.

Reports of investigation and study in all the various phases of accounting problems which have been carried on during the year are presented, analyzed and discussed at the conference. April 1955 will see again new advances made, improved methods outlined, and renewed evidences of the progressive and dynamic spirit that characterizes the accountants of the two industries.

The conference will open at 2 p.m., Monday, April 25, with a general session meeting in the grand ballroom of the Conrad Hilton Hotel, which will be presided over by Austin T. Gardner, Delaware Power and Light Co., chairman of the A. G. A. Accounting Section, and by Omar K. Boyd, Consolidated Gas Electric Light and Power Co., of Baltimore, chairman of the EEI Accounting Division executive committee.

Greetings to the delegates will be extended by A. G. A. first vice-president Dean Mitchell, president, Northern Indiana Public Service Co., and by EEI's president Harold Quinton, president, Southern California Edison Company. Addresses of welcome will be extended to the delegates by J. F. Oates, chairman of the board, The Peoples Gas Light and Coke Co., and by Willis Gale, chairman of Commonwealth Edison Company.

The delegates will then have "a date with dynamite." This is the way the conference co-chairmen have characterized the keynote speaker, Gene Flack, sales counsel and director of advertising, Sunshine Biscuit Co., and past president

of the National Sales Executives. Mr. Flack's theme will be, "Let's Look Alive in '55."

"Genial Gene," as he is fondly known from Maine to California, has probably addressed more conventions, service clubs, chambers of commerce and conclaves of all kinds than any other man in America, having made more than 11,000 platform appearances in the last 40 years.

Another highlight of the opening session will be a talk by Dr. Howard A. Aiken, director of the computation laboratory, Harvard University. This laboratory was engaged in October 1954, jointly by A. G. A. and EEI, to undertake a $100,000 electronic accounting research program. This undertaking is viewed by companies in both industries as one of the most important forward steps taken in the field of utility accounting in the past 20 years, and one that may well exert a most profound influence on the entire future of utility accounting.

Three-year project

Dr. Aiken will discuss the project which the computation laboratory has undertaken. It will cover three years of investigation and work in the development of an electronic system for customer accounting, payroll accounting, material and supplies accounting, and other related utility accounting applications. The project's plans, steps, and objectives which Dr. Aiken will outline in his talk will be of far more than passing interest to the conference delegates.

The third main speaker at the Monday session will be A. Paul Thompson, vice-president and treasurer, Iowa Power and Light Co., chairman of the EEI Executive Subcommittee on Cost Management programs. The utility industry seems to be continually beset from many directions with ever-rising costs of operation. It is, accordingly, fitting and timely that Mr. Thompson address the conference on the broad subject of cost control in accounting.

He will speak from a wealth of experience and extensive study in this subject, a subject which has become of such vital concern to the entire utility industry.

Following the highly successful pattern of last year, the joint Electronic Accounting Machine Development Committee will hold a luncheon meeting on Wednesday afternoon. The joint chairmen, J. C. Messer, The Peoples Gas Light and Coke Co., for A. G. A., and Walter Ott, The Cincinnati Gas and Electric Co., for EEI, will preside at this meeting. Recent developments in all the various phases of the application of electronic accounting machines will be discussed.

The General Activities Groups, consisting of the General Accounting, Depreciation Accounting, Taxation Accounting, Property Records, and Internal Auditing Committees, will hold a combined session on Tuesday morning, April 26. Presiding at this meeting will be the two coordinators of the General Activities Groups, D. W. Peterson, Minneapolis Gas Co., for A. G. A., and W. T. Hamilton, The Cleveland Electric Illuminating Co., for EEI.

This session will offer a well balanced program with an interesting variety of topics presented by each of the various committees.

The General Accounting Committee will present a paper on the subject, "Long-Range Estimates of Income, Construction and Cash." The paper will outline the use to be made of such estimates and will emphasize the vital importance of such estimates.

The Depreciation Accounting Committee will present C. N. Ostergren of the American Telephone and Telegraph Co., as a guest speaker. At this combined session, Mr. Ostergren's topic will be, "Considerations Necessary Before the Adoption of Liberalized Methods of Computing Depreciation." He will discuss this controversial and important matter by pointing up all of the pros and cons which should be studied by a company in arriving at a final decision.

Henry Ziethen, The Peoples Gas Light and Coke Co., will present the Taxation Accounting Committees' contribution to the combined meeting by presenting a paper, "Tax Exemption of Payments for Injury or Sick Absences." Release of regulations on this subject is anticipated in the near future and Mr. Ziethen's presentation will be accordingly very timely.

Representing the Property Records Committee, W. M. Sellers, Virginia Electric and Power Co., will give a talk on "Pennyless Accounting for Plant Accounting and Property Records."

The final speaker at this combined session will be David Dawson, Boston Edison Co., who will present as the contribution of the Internal Auditing Committee, a paper on "Operational Audits in Public Utilities." Mr. Dawson, in introducing this recent concept of the internal auditors' work, will draw on many actual experiences and problems encountered.

Each of the joint committees in the General Activities Groups will hold separate meetings on Tuesday afternoon and Wednesday morning.

The joint committee chairmen, R. H. Johnson, The Brooklyn Union Gas Co., for A. G. A., and C. T. Dwight, The Hartford Electric Light Co., for EEI, will preside at the General Accounting Committees' sessions.

Discussion topics

Topics scheduled for discussion at these meetings will include reports on "Amount of Checking and Rechecking Considered Necessary to Assure Adequate Accuracy"; "Use of Departmental or Average Labor Rates in Distribution of Labor Costs"; "Use of Exception Principle in Reporting Time Worked"; "Methods of Reporting Time in the Field in Stations and Sub-Stations, from Original Entries to Finished Payroll."

Other matters to be covered will include, "Present Practices in Reporting Labor Costs to Management"; "Developing Reports for Operating Management Involving Hours, Productivity Data, Etc."; "Acceleration of Reports on Construction Expenditures"; "Study of 1953 and 1954 Annual Reports" and "Recent Innovations in Mechanized Payroll Procedures."

The committees' program will be concluded with a "Résumé of Accounting Developments Affecting Public Utilities," which will cover such current topics as changes in SEC regulations, the Hinshaw Bill, accelerated depreciation and pension costs allocable to construction.

The Property Records joint committees headed by W. T. Mott, The Peoples Gas Light and Coke Co., for A. G. A., and F. W. Ross, Pennsylvania Power and Light Co., for EEI, will hold a luncheon meeting on Tuesday.

At this meeting, several "How We Do It" papers will be presented on such subjects as application of punched card accounting for electric meter records, H. L. French, Consolidated Gas Electric Light and Power Company of Baltimore, and for mass property work order systems and plant records, C. A. Gracy, Jr.,

(Continued on page 44)

1955 sales conference

Boston, April 12-14

The 1955 A. G. A. Sales Conference on Industrial and Commercial Gas will be held in Boston at the Hotel Statler, April 12, 13 and 14, according to an announcement by Ray Trowbridge, Section chairman. Once again a streamlined program has been prepared by the Programs and Papers Committee under the chairmanship of Walter S. Anderson, Boston Consolidated Gas Company.

Following the pattern of previous years, the three-day conference will hold Commercial Gas Day on Tuesday the 12th, a General Session on Wednesday and finish up with Industrial Gas Day on Thursday, April 14.

Leading off with a most important subject, "Gas Fryers Have Got It!", James J. Condon, The Peoples Gas Light and Coke Co., Chicago, will sound the keynote for an interesting panel discussion including Charles C. Hanthorn, Philadelphia Gas Works, and E. Fineran of Washington Gas Light Co., both of whom have several thousand restaurants that really do considerable frying.

"Gas Has Got It for the Bakery Too!", a complementary subject, will be presented by Harry Wilson, The Brooklyn Union Gas Company.

Panel discussions have proved very satisfactory and popular at these conferences, the committee has included several throughout the program. One on commercial incineration will be led by George Marble, Michigan Consolidated Gas Co., Detroit, who has been responsible for several papers and an Information Letter on this subject will have the assistance of: Richard Goder, Richard Goder Inc., Chicago; Stuart M. Truitt, district manager, The North American Manufacturing Co., Plainfield, N. J.; and a representative of a package incinerator manufacturer.

Continuing through the afternoon of Commercial Gas Day, "The Advantages of Gas in Your Kitchen" will be the title of a presentation by Joseph Betz, commercial sales manager, The Manufacturers Light and Heat Co., Pittsburgh, which is designed particularly to sell the boards of hospitals or schools.

A panel that should be most enlightening will be that on commercial water heating, with an array of talent that will do justice to this important load builder. The various segments of this subject which will be covered are:

Conversions—Harmon W. Boyes, district sales manager, Union Gas Company of Canada, Ltd., Chatham, Ontario, Canada.

Dishwashing—Donald D. Williams, commercial water heating sales, A. O. Smith Corp., Kankakee, Illinois.

Case Histories and Apartments—R. N. Spear, Ruud Manufacturing Co., Pittsburgh.

Tankless Heaters—Edwin S. Mack, industrial sales engineer, Chattanooga Gas Co., Chattanooga, Tenn., and Donald E. Dillon, assistant commercial sales manager, The Brooklyn Union Gas Co., Brooklyn, New York.

It is always refreshing to have someone from outside the gas industry bring a message that presents the other side of the story. To really tell commercial gas men "How to Sell the Restaurant Operator", Robert Parks, owner-manager, The Howard Johnson Restaurant, Concord, Mass., and president of the Massachusetts Restaurant Association, will conclude the day's session.

The Wednesday General Session has been planned to cover the Section membership from the top executive right down to the newest field representative. Following a welcoming address by E. H. Eacker, president, Boston Consolidated Gas Company, and past president, American Gas Association, Roy E. Wright, director of gas sales, NEGEA Service Corporation, Cambridge, will speak on "Holding and Increasing Our Loads".

A new use of gas that should have nationwide interest, "The Use of Gas in Frozen Foods" will be described by a prominent man in the restaurant industry. This subject will be increasing in importance from now on with the growing use of frozen foods and frozen dishes in volume feeding operations.

Of equal importance is the use of gas for air conditioning and a symposium on this subject has been included in the program which will bring leaders in this

field before the conference. The panel will include Victor Cole, product specialist, sales department, machinery & systems division, Carrier Corp., Syracuse, N. Y. and Robert C. Marsh, manager, refrigeration division, The Ready Power Company, Detroit.

The traditional ceremony of Hall of Flame membership presentations will take place before the luncheon for which an interesting speaker has been invited. Regardless of your allegiance to one league or the other, no matter who your favorite ball club is, no one will want to miss the talk by Tom Dowd of the Red Sox.

Another panel discussion will open the afternoon session with a most important subject to all companies and their sales departments. "The Selection and Training of Industrial or Commercial Manpower" should hold everyone's attention during the discussions by: Harry A. Sutton, assistant sales manager —gas, Public Service Electric & Gas Co., Newark, N. J.; J. H. Coates, Ebasco Services, Inc., New York; Carl Wierum, industrial sales manager, The Brooklyn Union Gas Company, Brooklyn, N. Y.; and W. W. Selzer, business promotion manager, Columbia Gas System Service Corp., New York.

The Gas Industry Development Program, which has done so much for our industry, will be discussed by J. Theodore Wolfe, executive vice-president, Consolidated Gas Electric Light and Power Company of Baltimore, Baltimore, Md. Mr. Wolfe will tell the part our Section can take in furthering this program. Complementing this paper with a discussion of the part advertising plays in any sales campaign, W. S. Redpath, vice-president, Ketchum, MacLeod & Grove, Inc., Pittsburgh, will present a paper on effective use of advertising.

Throughout the latter part of 1954, there was much written and said about the successful PEP Commercial Cooking Sales Campaign. A part of this campaign was the GAMA prize contest open to all participating companies. At this point in the program the prizes will be awarded to the winning gas companies in their respective classes.

This pleasant interlude will be followed by the Gas Appliance Manufacturers Friendship Room Reception just before the annual Section Dinner and entertainment program.

Packed full of down-to-earth subjects will be Industrial Gas Day, April 14, when leaders in industrial gas utilization will present talks and participate in panel discussions that will be right in the back yards of every industrial gas man. Opening the session will be Al Koch, in charge of standard industrial equipment for Surface Combustion Corp., Toledo, who will point out the "Modern Trends of Industrial Furnaces".

"Dual Fuel Combustion Equipment—Where It Can Best Be Used", will be the subject covered by Don Campbell, vice-president, Eclipse Fuel Engineering Co., Rockford, Ill., and R. J. Reed, application engineer, The North American Manufacturing Co., Cleveland, C. C. Eeles, assistant industrial and commercial sales manager, The Ohio Fuel Gas Co., Toledo, will comment on their presentations.

"Bud" Koester, Jr., vice-president, W. Wirt Young & Associates Inc., Wellesley, Mass., will tell how important is the "Pre-Sale Analysis of Industrial Gas Applications".

Many installations require low temperatures and just how important these can be to the industrial gas engineer will come out in the "Symposium On Low Temperature Applications". Large installations will be discussed by John D. Lynch, J. O. Ross Engineering Corp., Boston. Small installations will be covered by Herman Gehnrich, Gehnrich & Gehnrich, Inc., Woodside, N. Y., and G. R. Van Kampen, Red-Ray Mfg. Co., Cliffside Park, N. J. will present the details on specialized installations.

More and more are safety measures being enforced throughout industry. Going to the source for safety suggestions and demands, two representatives of insurance companies have been asked to present their views on this vital phase of industrial gas. They are Alfred Dowden, supervising engineer, public utilities, Liberty Mutual Insurance Company, Boston; and Louis H. Flanders, Jr., engineer, standards department, Factory Mutual Engineering Division, Boston.

Although the subject title is in a lighter vein, nevertheless the paper to be presented for the conclusion of the conference will contain much food for thought. In "Pots, Pans and Pliers", Fred K. Whiteside, Selas Corporation of America, Philadelphia, proposes to dish up some pertinent facts and thoughts for the delegates to take home and work out the practical applications in their own communities.

As Spring Conference Week is the ideal time for mid-season committee meetings, members of the several Section committees have been notified that those having to do with commercial activities will meet on Monday, April 11, before the conference begins, and those committees for industrial gas will meet on Friday, April 15.

Midwest Industrial Gas leaders chosen

New officers chat during annual meeting of Midwest Industrial Gas Council, January 21, in Chicago. They are (l. to r.): J. R. Woodfill, Northern Indiana Public Service Co., Hammond, vice-chairman; Jack C. Gurche, Panhandle Eastern Pipeline Co., Kansas City, chairman; Grover C. Lewis, Northern Illinois Gas Co., Bellwood, secretary-treasurer. May meeting is in Milwaukee

GAMA sees sales rise

(Continued from page 5)

No manufacturer felt that his own sales would decrease.

There's a different picture in the floor furnace field . . . very few manufacturers expect their own sales to increase. The industry consensus, a decrease of 10.8 percent holds.

Gas-fired direct heating equipment and gas unit heaters

	Gas-Fired Direct Heating Equipment	Gas Unit Heaters
Number of companies reporting	18	13
Units shipped (1954) by reporting companies (est.)	623,621	89,904
Units shipped (1954) by industry (est.)	1,424,500	n.a.
Percent of industry shipments reported	43.8%	n.a.

The consensus is that during 1955, gas-fired direct heating equipment sales, in units, will decline 2.7 percent from 1954, and approximate 1,386,000 units. If individual manufacturers accomplish their expected volumes, the industry will rise to a point slightly better than during 1954.

Manufacturers of gas-fired unit heaters anticipate unit sales to rise 15.7 percent over last year.

Gas-fired hotel and restaurant equipment

Based upon reports of seven manufacturers, the consensus is that 1955 sales will be 8.4 percent over 1954 sales. Five reporting companies predict increased sales by their own companies.

Gas-fired incinerators

Of 13 manufacturers reporting, ten anticipate an increase in their company sales; and two feel that 1955 volumes will be unchanged from 1954. The consensus—an increase of 17.1 percent in unit sales during 1955.

Gas clothes dryers

Insufficient reports were received to develop a reliable outlook. However, indications are that 1955 sales will be well above 1954 levels.

At the end of 1954, the gas industry served a total of 33,156,200 residential customers. Of this total, 25,806,200 were served by gas utilities and 7,350,000 served by the LP-Gas industry. The growth of the residential phase of the gas industry is evidenced in the following figures:

	Residential Customers			Percent Change 1954 Over	
	1954	1953	1941	1953	1941
Utility Gas	25,806,200	25,120,000	17,501,000	+2.7	+ 47.5
LP-Gas (est.)	7,350,000	7,000,000	1,645,000	+5.0	+346.8
TOTAL	33,156,200	32,120,000	19,146,000	+3.2	+ 73.2

Today, a network of some 463,000 miles of transmission, distribution and gathering pipelines are required to bring gas service to the homes and industries of the nation. In 1954, alone, 17,500 miles of new pipelines were added to the gas industry's continually growing systems.

Gas utility and pipeline construction expenditures are estimated at more than $1,100,000,000 during the coming year.

The gas utility industry expects to add about 1,200,000 new house heating customers in each of the next three years. In order to meet this, and other expanding markets, the gas industry spent some $50,000,000 in 1954 to develop underground storage fields. It is expected that a similar amount will be spent for the same purpose during 1955.

The gas industry, while confident of continued progress during the coming year, will not rest on its laurels and content itself with the normal gains of expanding markets. The industry, in all its phases, is competitive. It is fully aware that progress must be measured against its own adequacy and willingness to do competitive battle.

The gas industry has always been well fortified with industry-wide sales promotion and advertising programs. The year ahead will be no exception.

The increased sales of gas appliance and equipment manufacturers which will be accomplished within the framework can reap additional benefits through utilization and expansion of their own assets.

First, the year ahead will present design and performance improvements in kitchen appliances.

Second, technological advances will be noted throughout the gas appliance and equipment manufacturing industry.

Third, the public relations program sponsored by GAMA is in full swing, and will reap the additional benefits of three years' experience.

Fourth, the Action Program for Gas Industry Development has been proved a practical and workable instrument. This proof has been provided by the progress of its field testing in the ten Demonstration Cities, which results provide evidence that the sale of gas appliances and equipment can be brought into favorable focus with the sales potential of a gas utility's franchise area.

Fifth, individual manufacturer promotional and sales efforts will in all probability be in tune with their improved designs and in line with the sales volumes they expect to attain.

Sixth, additional advertising impact might be affected in various quarters of the industry through the cooperative efforts of groups of manufacturers.

Seventh, the impetus of the Liquefied Petroleum Gas Association's advertising and public relations programs will have positive results on the sales of gas and gas burning equipment in the areas beyond the gas mains.

Eighth, the public relations programs being sponsored by the American Gas Association and by the Independent Natural Gas Association, which are in addition to the LPGA and GAMA programs, will make heavy contributions to market conditioning and public acceptance for both the fuel gas and gas appliances.

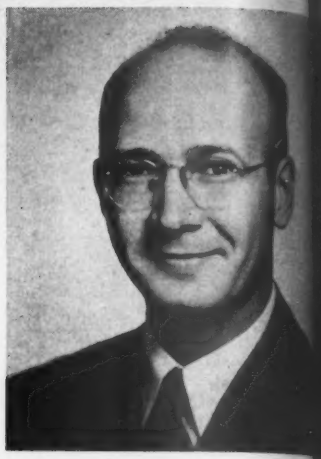
Ninth, the national advertising program of the A. G. A. and the furtherance of its PAR (Promotion, Advertising and Research) program will be continued with increased vigor.

Tenth, and what makes the previous elements cohesive and workable, is the record of mutual accomplishment and the practice of close cooperation between all parts of the gas industry which has been in clear perspective during recent years. This is particularly true in manufacturer-utility relationships.

So, from the over-all gas appliance and equipment viewpoint, the year ahead looks like a good one—not a spectacular one. As is the case with any given year, the net industry results will be in direct proportion with the efforts and accomplishment of the industry's individual components.

E. G. Boyer, Philadelphia, will analyze importance of manufactured gas production today

Karl B. Nagler, Chicago, will discuss safety from the operating executive's viewpoint



F. A. Boyd will review his company's sto[illegible] storage service from Oakford Pool to m[illegible]

Some of those who planned the program for the CEP Conference are (l. to r., seated): I. B. Dick; S. W. Horsfield, J. L. Turnan. Standing: Samuel Cohn; Duane V. Knebes, G. M. Hammond, A. H. Wicht, John H. Eiseman; L. M. Van der Pyl

Schedule Spring Conferences

Chemical, Engineering and Manufacturing Gas Production Conference

Rounding out the Section's annual Spring parade, the Chemical, Engineering and Manufactured Gas Production Conference will be held on Monday, Tuesday and Wednesday, May 23, 24, and 25, at the Hotel New Yorker, New York City. These will be three days of sessions, meetings, papers, discussions, panels, and round-tables full of facts, data, statistics, case histories, and reports on activities new and old.

Manufactured gas production, research, underground storage, safety, peak shaving, quality control, instrumentation, LPG, catalytic reforming, are just a few of the subjects which will be reported, analyzed and discussed by a group of experts selected from the gas industry's operating departments.

Because of the many and diversified subjects to be considered at the Conference, only one General Session has been scheduled, on the morning of the first day, to be devoted to subjects of broad appeal. Following this, the Conference will break down into morning sessions and afternoon luncheon conferences of more specific interest. Two morning sessions will be held on each of the second and third days, while three luncheon conferences are scheduled for each afternoon.

Presiding at the General Session on Monday will be S. W. Horsfield, Long Island Lighting Co., who, as chairman of the Manufactured Gas Production

(Continued on page 35)

elationship between measurement and under-round storage will be R. W. Todd's subject

C. E. Upson, Texas Illinois Natural Gas Pipeline Co., will evaluate use of the microwave

Clinton McClure will tell of El Paso company's experience with detergents to clean pipelines

Program Committee for Transmission Conference meets (seated, l. to r.): G. W. McKinley; W. F. Burke; R. L. Rountree. Standing: H. H. Egger; N. C. Comfort; Fredric Moshier; S. A. Chadwell; W. A. Crutchley; H. A. Rhodes and D. R. Wofford

Gas Supply, Transmission and Storage Conference

The William Penn Hotel, Pittsburgh, will be the scene of the Operating Section's third annual Gas Supply, Transmission and Storage Conference on Monday and Tuesday, May 9th and 10th. Although shorter than the other two Sectional meetings, the Conference will be packed from start to finish with information on new developments and advances in natural gas production, processing, transmission, storage, measurement and related operations.

Two morning general sessions will highlight the Conference, with the afternoons devoted to luncheon sessions which will feature informal, off-the-record round-table discussions. Five of these afternoon meetings will be held Monday and three on Tuesday.

Presiding at the Monday General Session will be George W. McKinley, Hope Natural Gas Co., as chairman of the Transmission Committee. The opening speaker will be J. H. Collins, Sr., New Orleans Public Service Inc., who, as Section vice-chairman, will report on the Section's activities.

Two important operating activities will be combined in one presentation when Raymond W. Todd, Pacific Lighting Gas Supply Co., discusses gas measurement as it relates to underground storage. Hydraulic fracturing will then be discussed by C. J. Hauck, of The Ohio Fuel Gas Company.

A new departure in cleaning pipelines by means of detergents will be reported upon by Clinton McClure, whose company, El Paso Natural Gas Co., has been experimenting with this method since 1949. More new developments will then be reported by Arthur Kohl and Fred Riesenfeld of the Fluor Corp., who will discuss recent advances in the conditioning of natural gas for transmission.

The final morning paper will be devoted to the latest developments in the field of prime movers and gas compressors for the gas industry, by R. D. Ricketts of the Fish Engineering Corporation.

The Tuesday morning General Session will be chaired by C. W. Studt, Union Gas System, Inc., who serves also as chairman of the Section's Committee on Underground Storage. Two papers on storage will start the Session.

H. L. Fruechtenicht, Jr., of the Michigan Gas Storage Co., will present, as chairman of the Subcommittee on Sta-

Distribution Conference

● Final plans are being formulated for the Distribution, Motor Vehicles and Corrosion Conference, scheduled for April 12-15 at the Netherland Plaza Hotel, Cincinnati. Advance programs have gone to all Section members and early returns from the hotel indicate that attendance may be an all-time high.

The hotel is handling requests for accommodations on a first-come, first-served basis. To assure securing the type of accommodations desired, operating men should submit their requests as soon as possible.

tistics, its fourth annual statistical report on "The Underground Storage of Gas in the United States". This report, which has come to be accepted as definitive in its field, will include the latest data on storage operations for calendar year 1954, covering such items as the amount of gas injected into and withdrawn from storage; number of companies engaged in storage activities; number of pools and wells, and the states in which they are located; the number of new pools under construction and their ultimate capacity.

A too-seldom considered side of storage operations will be discussed by A. Bruce Bowden of the Mellon National Bank and Trust Co., Pittsburgh, in his report on the financial aspects of underground storage.

Proving that times have changed since Mark Twain made his classic remark about the weather, Dr. Irving P. Krick, weather consultant of Denver, will discuss the importance of weather in the gas industry and its relation to and effect upon gas dispatching. C. E. Upson, Texas Illinois Natural Gas Pipeline Company, will then review microwave as a medium of communication in the gas industry.

With the ever-present threat to America from enemy attacks, as well as from nature, a paper by Clark F. Jones, National Fire Protection Association, will be of interest to every gas man. Mr. Jones will discuss "Disaster Control", recounting steps taken by various companies and industries to meet disasters and recommending action which might be taken by the gas industry to assure continuance of service in the face of any emergency.

Rounding out the session, and proving that Operating Section conferences have something for everyone, will be two papers on research and corrosion. J. L. Thompson, Michigan Wis. Pipe Line Co., will report on A. G. A. pipeline research activities. Mr. Thompson is chairman of the Pipeline Research Committee. Corrosion mitigation in compressor station equipment will be discussed by J. W. Berringer, Panhandle Eastern Pipe Line Co., who is vice-chairman of the Section's Subcommittee on Underground Corrosion Mitigation Practices.

The afternoon luncheon sessions each day will start at 12:30 with lunch and continue throughout the afternoon. A varied series of sessions have been scheduled covering natural gas from its point of production to the city gate, and arranged, as far as possible, so as not to conflict with each other.

The Monday luncheon sessions will deal with measurement, production, communications, compressors, and pipelines. On Tuesday, communications, storage, and dispatching will be considered.

The measurement session, with E. N. Armstrong, Transcontinental Gas Pipe Line Co., presiding, will concern itself with the new Gas Measurement Committee Report No. 3, supercompressibility, specific gravity, orifice co-efficients, orifice meter computations, and a further discussion of the paper on measurement as it relates to underground storage, which is scheduled for the morning General Session.

Natural gas luncheon

The natural gas production session will be chaired by W. E. Ferguson, of The Ohio Fuel Gas Co., whose Natural Gas Production Committee is sponsor. The morning session paper on hydraulic fracturing will be discussed more fully and an open forum will be held on problems connected with production.

S. A. Chadwell, Columbia Gas System Service Corp., as chairman of the Gas Dispatching Committee will preside at the luncheon session which will consider dispatching problems encountered in the operations of gas turbines and centrifugal compressors, distribution system dispatching, underground storage and its relation to dispatching, and further discussion of the morning paper on weather and dispatching.

In addition to presiding at the Tuesday morning general session, Mr. Studt will chair the afternoon storage session also. The meeting will receive and discuss reports of the Subcommittees on Deliverability Problems; Storage Lease Forms; Verifying Storage Inventory; Storage in Oil and Water Sands; and Statistics.

Chairman Newell C. Comfort, Hope Natural Gas Co., will preside at the luncheon session sponsored by the Compressor Stations Subcommittee. Two papers are scheduled for presentation and discussion. "Pressure Pulsation Tests of Branch Connections to Large-Diameter Pipe" will be offered by A. R. C. Markl of Tube Turns, Inc.; and J. S. Quill, General Electric Co., will offer a paper on "270,000 HP of Gas Turbine Centrifugals Installed by Gas Industry in Three Years." Discussions are also planned on turbochargers and free piston gas engines.

The Monday afternoon Communications session, under H. A. Rhodes, Transcontinental Gas Pipe Line Corp., will feature discussions by Mr. Rhodes, as chairman of the Communications Committee, on common carrier interconnection charges, contracts, and agreements. T. G. Humphreys, Alabama Gas Corp., will then consider telemetering and supervisory control, following which D. R. Woffard, Texas Gas Transmission Corp., will talk on leased common carrier service experiences. All of these presentations will be followed by discussions from the floor and question and answer periods.

The Tuesday Communications session will be opened by D. E. York, United Fuel Gas Co., who will discuss personnel training. Maintenance of communications equipment will be the subject of a full presentation by M. O. Sharpe, Trunkline Gas Co., who will consider preventive maintenance on mobile and microwave systems; towers and lighting; spare parts inventory and spare replacements units; and electron-tube dependability. The final feature of the session will be a discussion of 12 volt automotive electrical systems by W. Koscharreck, Public Service Electric and Gas Company.

Advance programs for the Conference will be in the mail shortly to all Section members, along with hotel reservation cards and advance registration forms. Upon their receipt, operating men will do well to make their plans and hotel reservations immediately, so as not to miss this important event.

Manufactured gas

(Continued from page 32)

Committee, will welcome the delegates and set the pattern for the three-day meeting. Section Chairman Walter H. Davidson, Transcontinental Gas Pipe Line Corp., will report on Section activities and Edward G. Boyer, Philadelphia Electric Co., will analyze and emphasize the importance of manufactured gas production in present-day gas industry operations.

Since no Operating Section conference could be complete without a consideration of safety and research, these two subjects have also been scheduled for the General Session. T. L. Robey, A. G. A. coordinator of research, will report on the Association's research program, while Karl B. Nagler, The Peoples Gas Light and Coke Co., will talk about safety from an operating man's viewpoint.

Getting down to actual case histories, Frank A. Boyd, Texas Eastern Transmission Corp., will close the session with a report of the experiences to date in the sale of storage service from the Oakford Storage Pool to the Eastern Seaboard market.

I. B. Dick, Consolidated Edison Company of N. Y. Inc., and Samuel Cohn, The Peoples Gas Light and Coke Co., chairman and vice-chairman respectively of the Chemical and Engineering Committee, will preside at the two sessions sponsored by their committee on Tuesday and Wednesday.

The first paper on Tuesday will be presented by Charles B. Moore of Arthur D. Little, Inc. Mr. Moore will offer a progress report on the work being done by his company on the A. G. A. research project PF-15, "Gas Conditioning Analytical Methods for Suspensoids." A paper on analytical instrumentation in the utility gas industry will be presented by Duane V. Kniebes of the Institute of Gas Technology, following which a representative of Armour Research Foundation will discuss the use of radioisotopes in the gas industry.

The session will close with a presentation on the production of petrochemicals from natural gas and natural gas liquids by IGT staff members J. M. Reid, H. R. Linden, and E. S. Pettyjohn.

The Wednesday chemical and engineering session will open with two papers on odorization. Odor conditioning of gas mains will be discussed by A. M. Rader, Minneapolis Gas Co., while Dr. Amos Turk will consider odor control by vapor mixing. Dr. W. W. Hodge, of the Mellon Institute of Industrial Research, will present a discussion of procedures in making a plant effluents survey and the session will close with a digest of LP-Gas test methods.

Mr. Horsfield will again preside at the Tuesday morning session on manufactured gas production. Four technical papers and a committee report will be offered.

E. W. Evans, Phillips Petroleum Co., will present a paper on LP-Gas storage and transportation facilities; C. B. Glover, United Engineers and Constructors, Inc., will consider new developments in the UGI cyclic catalytic reforming process. Catalytic conversion of synthesis gas from coal to high Btu pipeline gas will be offered as a joint presentation by H. A. Dirksen, E. J. Pyrcioch, E. S. Pettyjohn and H. R. Linden of IGT.

Report on builders

Richard Rick, Ingersoll Rand Co., will present the report of the Builders' Subcommittee, an annual compilation of the latest developments and advances by builders and manufacturers serving the gas industry. Rounding out the session will be a four-man report on current work by the U. S. Bureau of Mines on the gasification of pulverized coal, by G. R. Strimbeck, J. H. Holden, J. P. McGee, and L. L. Hirst, all of the Bureau.

John L. Turnan, Worcester Gas Light Co., will preside at the Wednesday morning session sponsored by the Manufactured Gas Production Committee, of which he is vice-chairman. The IGT will again figure prominently on the program, with a paper on initial operation of a four-shell cyclic regenerative pressure oil gas pilot unit by Messrs. Pettyjohn, Linden, Reid and Bair.

Another jointly-authored paper will be presented by C. W. Davis, Peoples Water and Gas Co., and Leo P. Bresnahan, Cambridge Gas Light Co., on operating problems of high Btu oil gas production. Another government agency, the National Bureau of Standards, will be represented also when J. H. Eiseman of the Bureau discusses the accuracy of recording gas calorimeter with natural gas. The session will close with a report on Gas Measurement Committee Report No. 3.

The three afternoons will be taken up with the informal, open forum type of discussion conferences which begin at luncheon and continue throughout the afternoon. Three such conferences will be held each day.

On Monday, the conferences will be devoted to carbonization and coke, under the chairmanship of H. E. Taylor, Alan Wood Steel Co.; peak shaving, under Louis Shnidman, Rochester Gas and Electric Corp.; and quality control.

Tuesday's conferences will consider low Btu gases, with Gordon Calderwood, Rochester Gas and Electric Corp., presiding; pipeline gas from coal, under the chairmanship of Bernard J. Clarke, Columbia Gas System Service Corp.; and a third on radioisotopes and chemical cleaning.

On the final afternoon, George R. Tallon, Koppers Co., Inc., will chair a conference on plant waste disposal; while another conference will consider high Btu gases.

Also scheduled for the last afternoon is a conference on the use and handling of LP-Gases. W. H. Kramer, Phillips Petroleum Co., will preside at a session which will hear discussions on the use of LP-Gas in Hasche furnaces by L. Albert, of Koppers Co.; new regulations and developments in LP-Gas handling will be discussed by Dean Seifried, Rockland Light and Power Co.; and safety features of the Public Service Electric and Gas Company will be reviewed by Francis E. Drake.

Mr. Kramer will then take over the platform to discuss safety and accident prevention, following which Henri Precheur, Public Service Electric and Gas Co., will discuss the preliminary results of a gasket and packing survey. All of these conferences will close with discussion and question and answer periods.

The final details of the Conference program are now being worked out by a committee consisting of the chairmen and vice-chairmen of the Manufactured Gas Production and the Chemical and Engineering Committees, and their subcommittees. Advance programs and hotel reservation cards will soon be in the mail to all Section members, along with advance registration forms for those who wish to register by mail, thus saving themselves the time and trouble involved in registering after the Conference opens.

All operating personnel planning to attend the Conference are urged to take advantage of the conveniences provided by advance registration and the hotel reservation cards. Requests should be sent in as soon as possible.

Industry news

ASA revises standard for recording injuries

IN REPORTING accidents to American Gas Association, member companies should follow the revised American Standard Z16.1-1954. The title of the revised standard is "The American Standard Method of Recording and Measuring Work Injury Experience." It became effective on January 1, 1955, and replaces the old Standard Z16.1-1945. Injury summaries for the year 1954 must be made on the basis of the old standard.

Many of the differences between the two Standards are minor. However, the principal ones, as explained in the February issue of *National Safety News,* are listed below:

"1. The format has been changed. The new standard has a section on *Definitions* in which all of the principal terms used in the standard are defined.

"It also has an appendix (not a part of the standard) which includes interpretations and guiding examples.

"The remainder of the standard covers items that are similar to those in the old standard, but they are grouped somewhat differently into the following sections: *Evaluation of Severity, Exposure, Measures of Injury Experience,* and *Classification of Special Cases.*

"2. Time charges for hand and foot injuries have been changed slightly. Each joint of each finger has a different charge, e.g., although the total charges for a hand or foot are unchanged. And the method of determining charges, especially in multiple amputations, has been greatly simplified.

"3. Hernia classification and charges have been changed. If a hernia is *not* repaired (regardless of whether it can or cannot be repaired) it is classified as a permanent partial disability and carries a time charge of 50 days. If it *is* repaired, it is classified as a temporary total disability and only the actual calendar days lost are charged.

"4. Back injuries are considered work injuries only if there is a clear record of an accident or incident, and if the doctor authorized to treat the case is satisfied that the injury could have arisen out of the accident or incident.

"Back conditions which are revealed on the job but which do not result from nor are caused by an accident or incident are not considered work injuries.

"5. Disabilities which arise solely out of physical deficiencies are not considered work injuries, but an injury which arises out of and in the course of employment is considered a work injury even though the worker had a physical deficiency.

"6. An injury is not considered a work injury if it results solely from an external event of such proportions and character as to be beyond the control of the employer, such as tornadoes, earthquakes, floods, explosions originating outside of employment, etc., or from an immediate secondary event such as a fire, boiler explosion, falling electric wire, etc. However, if the victim is a policeman, fireman, member of a disaster or emergency squad, utility lineman, or other employee who is assigned duties in connection with such events, the injury is considered a work injury.

"7. The disabling injury severity rate has been placed on the same basis as the disabling injury frequency rate—viz: 1,000,000 manhours of exposure.

"8. A third measure for evaluating injury experience is included. It is called the 'Average Days Charged per Disabling Injury.' This average is determined by dividing the total number of injuries into the total days charged as a result of the injuries. The measure is not new in statistical work, but it has not been part of the standard before."

Safety personnel and other users are urged to get copies of the complete new standard from American Standards Association, 70 East 45 Street, New York 17, N. Y.

NEGA to hold annual meeting late this month

NEW ENGLANDERS, mark your calendars! March 24 and 25 are two important days for you. That is when the New England Gas Association will meet in Boston for its 29th annual business conference.

F. M. Banks, president, American Gas Association, and president, Southern California Gas Co., Los Angeles, will be one of the featured speakers when he presents his address, "This I Believe". In addition, the program includes speeches concerning nationwide gas industry challenges, panel discussions on special operating and sales problems, and two inspirational talks.

Further details about the conference, which will be held in the Hotel Statler, can be obtained from NEGA Headquarters, 10 Newbury St., Boston 16.

Announce standard

THE AMERICAN Petroleum Institute announces the publication of a third edition of the "Tentative Standard for Field Welding of Pipe Lines." The revised edition incorporates certain changes resulting from comments on the second edition issued in February 1954. Principal changes are in the welding section where rather extensive revisions have been made. The important additions to this revision are the Procedure Qualification requirement and sketches of test specimens.

The standard and its latest revision were prepared by a committee on which serve representatives from the American Gas Association; Pipe Line Contractors Association; Pipe Manufacturers; and the American Petroleum Institute. The American Welding Society and the Society for Nondestructive Testing now have official representation on this committee.

Copies of "API Standard 1104, Third Edition, Tentative Standard for Field Welding of Pipe Lines" may be ordered from J. A. McNally, American Petroleum Institute, 50 West 50th St., New York 20. The price is 50 cents per copy.

Mrs. America cooks in City of Brotherly Love

Mrs. America 1955 (Mrs. Wanda Jennings) and the Benjamin Franklin Hotel's chef test a recipe just before her appearance at Pennsylvania Gas Association's Mid-Winter Sales Conference, Philadelphia. J. Henry Long, general supt., gas production, Philadelphia Electric Co., and president, PGA, watches

PEP contest winners to receive prizes at April sales meeting

LIKE THE BOXING champ once said, "It was a hard fight. . . ." The winners and the runners up in the 1954 PEP Campaign Prize Contest will agree to that! The contest, sponsored by Gas Appliance Manufacturers Association, was open to all companies who conducted the American Gas Association Commercial Cooking Sales Campaign during September, October and November.

Average sales per meter for companies participating in the 1954 PEP contest were eight percent greater than during the campaign in 1953.

The winning companies will receive $300 in cash and an achievement award plaque at the A. G. A. Sales Conference on Industrial and Commercial Gas in Boston, April 12-14. They are: *Class 1*, Washington Gas Light Co., Washington, D. C.; E. V. Fineran, industrial sales manager; *Class 2*, Piedmont Natural Gas Co., Inc., Charlotte, N. C., James Sheehan, sales manager; *Class 3*, Chattanooga Gas Co., Chattanooga, Tenn., J. Olmsted, commercial representative.

Runners up, who were just behind the winners in each classification, made an excellent showing throughout the contest. They are: *Class 1*, Laclede Gas Co., St. Louis; *Class 2*, Gas Light Company of Columbus, Ga., and *Class 3*, Northampton Gas Light Co., Northampton, Massachusetts.

The GAMA board of judges for the 1954 PEP Campaign Prize Contest meet in A. G. A. Headquarters to determine winners this year. They are, seated, left to right: Harold Massey, assistant managing director, GAMA, New York; Tracy Madole, manager, commercial appliance sales, Magic Chef, Inc., St. Louis. Standing, left to right: James M. Beall, director, public information bureau, A. G. A., Otto Zwanzig, director, PAR Program, A. G. A., Paul Grimes, manager, The G. S. Blodgett Co., Inc., New York

IGT offers fellowships and scholarships

THE Institute of Gas Technology, Chicago, announces the availability of fellowships leading to the master of gas technology and doctor of philosophy, and scholarships in the gas option in chemical or mechanical engineering at Illinois Institute of Technology, leading to the bachelor of science degree.

Fellows and scholars receive their degrees from the Illinois Institute of Technology. Both groups are required to work during the summer, for a monthly salary, in cooperating gas companies. In the bachelor's degree sequence, the Institute will pay the senior year tuition fees, and scholarship holders will be given prior consideration in the awarding of graduate fellowships. Fellows receive, in addition to tuition and fees, a graduated tax-free stipend to cover living expenses while in residence at the Institute in Chicago.

Graduates are aided in securing employment in their desired work in the preferred section of the country. Formal appointment will be made on April 1.

Further information, as well as applications can be obtained from The Director, Institute of Gas Technology, 17 West 34 St., Technology Center, Chicago 16.

Announce publications

LISTED below are publications released during February, and up to closing time of this issue of the MONTHLY. Information in parentheses indicates audiences for which each publication is aimed.

LABORATORIES

• **Directory of Approved Appliances and Listed Accessories, January 1955** (for dealers, utilities, manufacturers, code authorities). Sponsored by and available from A. G. A. Laboratories, Cleveland, for the annual subscription price of two dollars.

STATISTICS

• **Monthly Bulletin of Utility Gas Sales—December 1954** (for gas companies, financial houses, security analysts). Prepared by and available from A. G. A. Bureau of Statistics, free.

• **Quarterly Report of Utility Gas Sales—Fourth Quarter, 1954** (for gas companies, financial analysts, investment houses, market researchers). Prepared by and available from A. G. A. Bureau of Statistics, free.

Tappan designs modular units for homes

RECOGNIZING the growing popularity of built-in gas ovens, The Tappan Stove Company of Mansfield, Ohio has introduced "Tap'n Wall" gas ovens and surface units to fit into new or remodeled homes. Presentation of the new products coincides with the company's Diamond Jubilee observance this year.

The built-in equipment includes two separate units, the oven and surface-cooking units. Each may be installed independently of the other, providing needed flexibility.

The oven dimensions are 18 inches wide, 20 inches deep and 13½ inches high. The same dimensions apply to the broiler unit, which is placed immediately beneath the oven in the built-in gas unit as a separate facility.

The oven and broiler units are accurately regulated by an all-purpose control panel, containing an automatic clock, oven and broiler indicator lights and thermostat control dial, placed at eye-level at the top of the unit.

Surface cooking units on the built-in range are adaptable to an inverted "V" or four-in-line arrangement, with control switch panel at the front of the unit. They are also equipped with an automatic burner shut-off.

Highlights of cases before Federal Power Commission

Bureau of Statistics, American Gas Association

Rate cases

● **Michigan-Wisconsin Pipe Line Company:** The company has filed a proposed $1.5 million annual wholesale gas rate increase with the Federal Power Commission. The company contends that the higher rates are necessary to offset an increase in the cost of gas purchased from Phillips Petroleum, whose increase has been under FPC suspension but which may be put into effect on February 1, subject to refund. Michigan-Wisconsin sells gas for resale to 16 utility customers which serve markets in Michigan, Wisconsin, Iowa and Missouri.

● **Natural Gas Pipeline Company of America:** Presiding Examiner Glen R. Law of the FPC has filed a decision, subject to review by the Commission, allowing Natural Gas Pipeline $5.9 million of a proposed $7.2 million annual wholesale gas rate increase. The amount allowed was based on the increased cost of gas which Natural purchases from sources other than Texas Illinois Natural Gas Pipeline Company, an affiliate of Natural, and on additional operating expenses, taxes and a 6.1 percent rate of return. The remaining $1.3 million of Natural's proposed increase applies to natural gas purchased from Texas Illinois. The Commission, on December 8, affirmed a decision filed by Presiding Examiner Edward B. Marsh disallowing part of a rate increase proposed by Texas Illinois. Presiding Examiner Law's decision disallows that portion of the remaining $1.3 million of the increase proposed by Natural which reflects the reduction in the amount of Texas Illinois' rate increase. Natural now has pending before the FPC a further increase of $10.7 million per year which may be put into effect, subject to refund, as of March 2, 1955.

● **Panhandle Eastern Pipeline Company:** The company has filed revised rates in accordance with the FPC order of December 13. The revised rates provide for a $4.9 million reduction in the amount of a proposed $12.0 million annual wholesale rate increase. The revised rates have been allowed to go into effect by the FPC, subject to refund as of January 1, 1955. The higher rates affect 48 wholesale customers operating in Illinois, Indiana, Kansas, Michigan, Missouri and Ohio.

● **Southern Natural Gas Company:** The FPC has permitted the company to file substitute rates which reduces the amount of the increase requested for sales made in its Zone 4, which includes South Carolina and the Savannah, Georgia, service areas by $414,000 per year. This reduces the total amount of the increase sought by Southern from $7.0 million to $6.6 million annually. The proposed $7.0 million increase was filed with the FPC last September 30, but was suspended in part by a Commission order issued October 28. The FPC did not suspend about $485,000 of the total sought, since it was applicable to rates for the sale of natural gas for resale for industrial use only.

● **Transcontinental Gas Pipe Line Corporation:** The FPC has announced that Transcontinental has filed a proposed $2.2 million annual wholesale gas rate increase. The proposed higher rates would be over and above a $4.0 million annual increase presently under FPC suspension. Transcontinental stated that the new increase is based on the increased cost of gas purchased from five suppliers. Transcontinental serves about 60 wholesale customers in Alabama, Georgia, Maryland, New Jersey, New York, North Carolina, Pennsylvania, South Carolina and Virginia.

● In other rate proceedings, the FPC in the period from January 11, to January 26, 1955 suspended rate increase applications of two independent producers, totaling $5,000. During this same period the Commission allowed 220 independent producer applications for gas rate increases totaling $1.3 million to become effective. The allowed increases were based on favored-nation clauses or periodic increases, revisions in the Texas and Louisiana gathering and production taxes and increases which were considered *de minimis*. In addition to the above rate proceedings the FPC allowed a $48,000 rate increase proposed by **Christie, Mitchell & Mitchell Company** to become effective subject to refund. In still another action, the FPC rejected the conditional filing of a $585,000 rate increase by **Phillips Petroleum Co.**, for natural gas sales to Michigan-Wisconsin Pipeline Company. The Commission said that the filing was being rejected because it embodied certain conditions requiring the issuance of further clarifying orders. The FPC, last October 1, suspended certain rate schedule supplements filed by Phillips for an increase pursuant to a contract inflation adjustment clause activated by an increase proposed by Michigan-Wisconsin. On December 8, the Commission modified the October 1 order to permit Phillips to file as its rates in effect on June 7, 1954, the same rates which had been allowed as Michigan-Wisconsin's cost of gas in the FPC's opinions and orders dealing with Michigan-Wisconsin's increase. Phillips filed the new rate on December 23, but conditioned its willingness to accept it upon the issuance of further clarifying orders by the FPC. One of the conditions was that the Commission should by an appropriate order indicate that it did not intend to limit Phillips' rates for any period prior to June 7, 1954.

● The FPC has exempted four more companies from regulations under the Hinshaw Amendment to the Natural Gas Act. The four companies exempted are: Consumers Gas Company of Carmi, Ill.; Empire Gas and Fuel Co., Ltd.; The River Gas Company and Southeastern Michigan Gas Company. Since March 27, when the Hinshaw Amendment was signed into law, 55 companies have been exempted and two partially exempted.

Stove company starts new commercial sales division

DETROIT-MICHIGAN Stove Company has announced creation of a separate sales division for its Garland commercial ranges.

Fred A. Kaiser, president, named C. M. Jewell sales manager of the new division and John P. Beals as assistant sales manager. Kaiser said separation of sales direction of the Detroit-Jewel line of domestic ranges and the Garland line of commercial equipment is preliminary to further sales expansion.

Mr. Jewell, a field executive for DMS for many years, mainly in the Eastern regions, will establish headquarters in New York. Mr. Beals will direct sales operations for Garland at factory headquarters in Detroit.

FPC okays Pacific Northwest pipeline financing

THE FEDERAL Power Commission has approved a $163,021,000 financing plan submitted by the Pacific Northwest Pipeline Corporation to bring natural gas to the Pacific Northwest.

The plan calls for issuance of $120,675,000 in bonds, to be sold to insurance companies; $17,220,000 in 6 percent notes, convertible to preferred stock, and common shares totaling $25,126,000.

C. R. Williams, pipeline company president, said following announcement of FPC approval that the company plans to file its registration with the Securities Exchange Commission "in the near future".

Plans announced for 1955 A.G.A. Convention in Los Angeles

PLANS are progressing rapidly for the first American Gas Association Convention on the Pacific Coast, according to R. R. Blackburn, vice-president, Southern California Gas Co., and chairman of the 1955 A. G. A. Convention Committee. The 37th Annual Convention of A. G. A. will be held jointly with the Pacific Coast Gas Association's 62nd Annual Convention October 17, 18 and 19, at Los Angeles. Details on both convention programs will be announced as far in advance as possible. Applications for hotel reservations have been mailed to A. G. A. members.

General sessions meetings will be held at the Statler Hotel, which also has been designated as headquarters for the General Management and the Accounting Sections of A. G. A. The Residential Gas, and the Industrial and Commercial Gas Sections will hold meetings and maintain headquarters at the Ambassador Hotel. The Operating Section will establish its headquarters and hold its meetings at the Biltmore Hotel.

A committee headed by Robert A. Hornby, executive vice-president of Pacific Lighting Corp., is arranging a program of stimulating and informative meetings with talented speakers. These meetings include the general sessions, sectional programs and the joint PCGA-A. G. A. Luncheon meeting on October 19th.

Entertainment that is distinctively Pacific Coast in flavor will be included in the program. Plans to date include a planned sightseeing tour for the ladies on Monday afternoon, the President's Reception and Dance, Monday evening; an interesting luncheon, style show and bridge for ladies on Tuesday afternoon and a general entertainment program Tuesday evening in a location and of a nature that will appeal to all delegates, according to Mr. Blackburn.

Because of the wider participation on the part of both delegates and ladies in the special services, including the chartered busses and entertainment features, registration fees will be $20 for delegates and $10 for accompanying ladies. An opportunity to register in advance will be offered later to members of both associations.

Delegates are urged to mail applications for hotel accommodations to A. G. A. Housing Committee, Convention Bureau, Los Angeles Chamber of Commerce, 1151 South Broadway, Los Angeles 15, California, as soon as possible, to avoid last-minute confusion. Early action in securing hotel reservations will materially assist the Convention and Housing Committees in providing adequate and satisfactory arrangements.

SGA personnel round-table breaks attendance records

THE EMPLOYEE RELATIONS Section of the Southern Gas Association held its final round-table conference for the current association year on January 21 at the Noel Hotel in Nashville, Tennessee. Forty-one men representing 24 companies were present.

The agenda included a discussion of wages and salaries, employee training, unions, personnel and employment practices, job classifications, and many other employee relations subjects of current interest. In addition to the regular round-table discussion, John Kirtley, director, public and employee relations, Texas Gas Transmission Corporation, discussed his company's promotional policy. Vernon E. Rasch, personnel manager of the United Gas Corporation and chairman of the S.G.A. Employee Relations Section, was the sponsor.

East Ohio folder sells gas "every hour of every day"

AN ATTRACTIVE TEAL green, black and white folder advertising "the most modern range in the world" is being circularized by The East Ohio Gas Co., Cleveland.

The folder contains spec sheets from five leading manufacturers of built-in matchless gas ranges, in addition to an informative booklet telling in plain words and clear illustrations exactly why and how "gas is best by every test."

Other gas companies interested in securing copies for their use should contact Harold Eckes, director of public relations and market research, East Ohio Gas Co., Cleveland 1, Ohio.

Seattle preparing

A $1,200,000 gas distribution system expansion has been approved by the Seattle Gas Company. This is the company's first major expenditure during 1955 in preparation for the arrival of natural gas.

New mains will be laid through Seattle's industrial area to the South Seattle station. From this new distribution system new gas mains will be laid to service West and South Seattle residential areas. Seattle Gas Company officials expect the natural gas pipeline to arrive in Seattle by late spring of next year.

Canadians to meet

THE coming supply of natural gas to central Canada will be the main topic of discussion at the Canadian Gas Association's 48th annual meeting. The convention will be held June 5-9 at Niagara Falls, Ontario, and will feature business discussions, the annual C.G.A. golf tournament and dinner dance.

By special arrangement, the annual meeting of the Natural Gas and Petroleum Association will be held in Hamilton, Ontario, on June 9 and 10, immediately following the C.G.A. meeting in Niagara Falls.

Plan Florida's Mrs. America contest

Judges of Florida State Finals in the Mrs. America Contest meet for first time in Algiers Hotel, Miami Beach, where Mrs. Florida 1956 will be chosen April 16, 17 and 18. Left to right: Ethel B. Shaffer, home economist, Peoples Water and Gas Co.; Irvin Korach, architect; Elizabeth Knowles, Howard Johnson, Inc.; J. P. Happ, sales and appliance dept. manager, Peoples Water and Gas; Dorothy Jurney, woman's editor, Miami Herald; J. C. Bolender, vice-president and general manager, Peoples Water and Gas; Laura O'Banion, dress manufacturer; Ray Sadler, Industrial Research, Inc.; Mickie McDavid, Mrs. Florida, 1955; Jeanne Voltz, food editor, Miami Herald; Martha Henderson, Dade County Schools

Wisconsin promotes Taylor as Kohlhepp succeeds Werner in Jersey

HAROLD P. TAYLOR, senior vice-president and treasurer of Wisconsin Public Service Corp., has been elected president to succeed Charles E. Kohlhepp. Mr. Kohlhepp has resigned, effective April 1, 1955, to take the presidency of Jersey Central Power & Light Co., a New Jersey electric utility. He will succeed E. H. Werner, who retires on that date. Mr. Kohlhepp, president of the Wisconsin utility since 1948, is a member of American Gas Association.

Mr. Taylor has spent the past 30 years with Wisconsin Public Service Corporation. In 1925 he joined Public Service at Green Bay where he was division auditor and continued in that position until 1930 when he moved to Milwaukee as assistant treasurer. He was elected treasurer of the company in 1938, vice-president and treasurer in 1944, a director in 1952, and senior vice-president in 1954. Mr. Taylor has been active in the Edison Electric Institute and is currently president of the Wisconsin Utilities Association.

L. G. Roemer, assistant treasurer, was elected treasurer of Wisconsin Public Service at the same time. He has been with the company for 25 years.

Personal and otherwise

Burton and Rice advance in Transcontinental organization

TRANSCONTINENTAL Gas Pipe Line Corporation has promoted two of its financial men. John F. Burton has been named financial vice-president and William M. Rice has been appointed treasurer of the company.

Since 1925, when Mr. Burton first joined the staff of Virginia Electric and Power Co., he has held various positions dealing with the financing and accounting of public utilities. Mr. Burton is a member of A. G. A.

Prior to the promotion, Mr. Rice was assistant treasurer in charge of taxes. He came to Transcontinental Gas Pipe Line Corporation from Washington, D. C., where he had been a member of Walker, Rice & English, a law firm handling tax matters.

Tax, insurance, purchasing, treasury, and banking activities at Transcontinental will now be under Mr. Rice's direction.

S. L. Lamkin, former supervisor of general accounting, was named assistant controller at the same meeting of the board. Mr. Lamkin, a graduate of Rice Institute, has been with Transco since 1950.

North Shore names Jones president and promotes two executives

ROY E. JONES has been elected president and a director of North Shore Gas Co., Waukegan, Illinois. Mr. Jones returned as vice-president last September after serving as executive vice-president of People's Water and Gas Company in North Miami, Florida for three years. He was formerly with North Shore Gas from 1942 to 1951.

Mr. Jones, active in gas industry affairs, is a member of American Gas Association and while in Miami, was president of the Florida-Georgia Gas Association.

Verne L. Gerry has been advanced to the position of superintendent of distribution. Oscar F. Rogers has been made superintendent of production and engineering. He, too, is a member of A. G. A.

Piedmont Natural appoints Hopping and Pickard vice-presidents

J. D. PICKARD has been named vice-president of operations, and J. G. Hopping has been appointed vice-president of industrial sales by Piedmont Natural Gas Co., Inc., Charlotte, North Carolina.

Mr. Pickard, as vice-president of operations, will continue his duties in charge of the operating department and Mr. Hopping, as vice-president of industrial sales, will continue to head the industrial department of the company. Both Mr. Pickard and Mr. Hopping are members of A. G. A.

Pakistani student seeks engineering post

ANY COMPANY seeking a student engineer and at the same time willing to contribute to international relations may be interested in an application received by American Gas Association from a young Pakistani.

A holder of a B.S. from Punjab University and at present studying gas distribution and supply at Westminister Technical College in London, this 24-year-old young man would like to gain practical experience in the U. S. after qualifying for a diploma within a few months. He plans to return to Pakistan eventually, where natural gas will soon be piped from the Sui reservoir to Karachi. The International Bank for Reconstruction and Development last year approved a loan for building a 350-mile pipeline.

Our correspondent wrote to A. G. A. as the result of advice from his country's embassy in Washington, which is evidently aware of A. G. A. Monthly's Personnel Service. We refer any interested persons to the notice, which appears under the heading, Student Engineer, Box #1802.

Lambdin succeeds Jones in Mississippi

J. H. LAMBDIN has been appointed general superintendent of Mississippi Valley Gas Co., Jackson.

Mr. Lambdin succeeds the late Glenn C. Jones, veteran gas utility executive who died recently. (See page 41.)

Mr. Lambdin has been associated with Mississippi Valley Gas since the company was organized in 1952. He has served as Jackson district manager and as operating superintendent prior to his promotion as general superintendent.

A graduate of Mississippi State College, Mr. Lambdin has had over 25 years active experience in gas utility operations in the state. In his new position, he will continue to maintain headquarters in Jackson where Valley Gas general offices are located.

Keagy retires

WALTER R. KEAGY has retired as vice-president of The Cincinnati Gas & Electric Co., after 26 years of service. Mr. Keagy joined the Ohio company in 1929 as service department manager. In 1945, he was elected vice-president in charge of customer service and public relations. He served as a member of the board of directors in 1950 and 1951.

Mr. Keagy is a member of A. G. A.

Rose leaves A. G. A. to accept pipeline company post

HARRINGTON A. ROSE has resigned as secretary of the General Management Section of the American Gas Association to accept a position in the customer relations department of Transcontinental Gas Pipeline Corporation. He will deal with customer relations for southern customers of the corporation and will be stationed in Atlanta, Georgia.

Mr. Rose joined A. G. A. on April 1, 1954, after having served with Stone & Webster Service Corporation. He studied engineering at Syracuse University and entered the gas business in 1947 with Conversions and Surveys, Inc. While employed by that company, he worked on conversion programs of Consolidated Gas Electric Light and Power Company of Baltimore, The Brooklyn Union Gas Co., and Kings County Lighting Company.

Cook elected vice-president

WESLEY A. COOK has been elected a vice-president of Portland Gas & Coke Co., Oregon.

Mr. Cook joined the company in 1946 as rate supervisor and in 1949 also assumed the duties of assistant to the president, the position he has held since that time. He has been engaged in various phases of the utility industry since 1936.

OBITUARY

Glenn C. Jones

general superintendent of Mississippi Valley Gas Company died on January 14, in Jackson, Miss., following a brief illness. He was 56.

As Valley Gas general superintendent, Mr. Jones directed operations of the entire company system serving 104 cities, towns and communities in Mississippi.

He was prominent in state, regional and national gas industrial organizations including American Gas Association and Southern Gas Association.

He is survived by his wife, Mrs. Beatrice Pratt Jones; a son, Thomas E. Jones and twin granddaughters; his mother; three brothers and two sisters.

Frank H. Knapp

retired Pittsburgh industrialist, 88 years of age, died on January 31. Mr. Knapp was a former director of the American Gas Association.

He had been president of the Pittsburgh Water Heater Co., Lawson Manufacturing Co., and executive vice-president of Standard Gas Equipment Company.

He is survived by his widow, Mrs. Inez Johnson Knapp.

Hubert C. Blackwell

who had served The Cincinnati Gas & Electric Company for 25 years before he retired in 1948, died suddenly at his home on January 18. Mr. Blackwell was chairman of the board when he retired.

Mr. Blackwell leaves his widow and two sons.

Jack Evans Cozine

manager of Atlanta Gas Light Company at Griffin, Georgia, died on January 31 of pneumonia. He attended the University of Alabama and had served the utility for 25 years.

John Terrace

secretary of the Institution of Gas Engineers, London, England since 1936, died on January 20. Mr. Terrace had been active in the Institution since 1903, and was an enthusiastic supporter of its projects throughout the years. He served as its president in 1929.

LPG storage

(Continued from page 11)

type of sendout facilities required for the stand-by installation. For those able to maintain distribution from the central portion of the system using low pressures, jet inspirator type of mixing equipment is both adequate and economical. In other instances, particularly where natural gas has been introduced, systems change with the emphasis shifting from low pressure distribution to high pressure distribution, and the plant should be located so as to take advantage of the principal high pressure distribution lines.

When considering this type of system, compression of the air should be provided for and controlled mixing of the propane and air by some means of an automatic controller. Obviously, the pressure of the sendout determines the horsepower of the compressors required for the air.

There is another factor which should be taken into consideration at this point, and this is the heating value of the sendout gas. If the main purpose of a plant is to provide for stand-by, then it is necessary to reduce the over-all investment of the plant to a minimum, since the annual fixed charges against the plant form the principal cost. This can be done by raising the heating value of the propane air mix to the maximum permissible for the selected operating conditions.

It is generally recognized today that a propane air mixture of approximately 1,380 Btu per cu. ft. provides for the maximum interchangeability with natural gas. Since the system demand is for therms and not cubic feet, the only loss entailed in using the higher heating value is the metering loss, and this might be absorbed by a company under emergency conditions entailed with operation of a stand-by plant.

Other equipment to be considered for either the low pressure sendout or the pressure sendout plant includes vaporizers. In the conventional installation, vaporizers are steam heated and, unless the steam is at an elevated pressure, little control of the outlet propane vapor temperature is possible. For the stand-by plant and, for that matter, for any plant, the use of direct-fired vaporizers should be considered. Such units require general isolation from the rest of a plant for protection in case of tube rupture.

The experience of the oil industry in designing and using direct-fired furnaces for cracking of hydrocarbon feed stocks under much more severe conditions than are envisioned here can be drawn upon to the advantage of the gas industry. Units of this type are available in prefabricated form for ratings as large as are contemplated in any installation today. If necessary, the duty of the plant might be divided between two units. Control of firing of the furnaces could be taken from the outlet propane temperature and the entire unit designed to operate either from the natural gas or system gas distributed, or on propane vapor derived directly from the vaporizer outlet.

Gas tanks or spheres may be utilized for small standing storage requirements, but when the system has grown to an appreciable extent, the volume of gas required for adequate protection would require a heavy investment in gas storage tanks or spheres. Such installations have their place in the operating system for short term gas supply requirements.

Tanks and spheres installed today for storing gas under pressure are designed in accordance with rules of the American Society of Mechanical Engineers for unfired pressure vessels, utilizing a factor of safety of four in determining the allowable stress in the shell material. Gas tanks are defined as horizontal or vertical cylindrical vessels with heads of elipsoidal or hemisperical shape.

Such units may be either completely shop fabricated and delivered to the job or partially shop fabricated and field erected. The size of the vessel which may be shop fabricated is limited only by the clearances required along the shipping route. For rail shipment of the vessels, the railroad clearances would generally govern. For some localities, vessels of this type might be shipped by water, in which case, larger shop fabricated vessels would be possible.

The cost for storing gas in tanks would be approximately $350 per Mcf of gas stored. For spheres, this cost would become approximately $290 per Mcf of gas stored, but larger volumes may be stored than in tanks.

It should be noted that the thickness of the plate material for the spheres has generally been limited to 1 in. for A212 material or 1¼ in. for the usual pressure vessel steels to eliminate the necessity for field stress relieving of the finished unit. With this limitation on thickness, there would be little difference in the cost per thousand cubic feet of gas stored when using the maximum

thickness permissible regardless of the size of the vessel.

Gas may be stored on pipe batteries, using either conventional gas transmission line pipe or special cylinders such as those which are fabricated by National Tube Company or Taylor Forge & Pipe Works. Systems of this type require compressors to place the gas in storage and sendout facilities to remove it from storage are simple. The real relative advantage of the two types of units depends upon the current price relationship between the pipe and the special cylinders, and this may vary from day to day.

The usual storage pressure for the special cylinders would be 2,240 psi using cylinders 24 in. in diameter by approximately 40 ft. long with ½ in. nominal wall thickness. These units are fabricated of a special material which is not readily welded and, therefore, the units have integral forged ends of a hemispherical shape. These ends are bossed and tapped to provide for manifolding in various multiples. For pipe type units, lengths of conventional line pipe with a high yield strength are installed by welding together and closing long lengths with pipe caps, and these are operated at about 1,000 psi.

The design stresses for both types of units are determined in accordance with the procedures outlined in the ASA Code for Pressure Piping. Such systems must be carefully designed and cathodically protected. The operating stress level is usually about 56 percent of the ultimate strength of the materials.

Gas stored in pipe batteries must be dried so that no condensation will take place under operating conditions. For storage pressures of 2,240 psi, the maximum amount of water permissible is ½ lb. per Mcf of gas. When the gas is withdrawn from storage, it should be heated to prevent hydrate formation. Costs for such storage installations, including the cost of the compressor plant and gas drying installations, would vary from approximately $92 per Mcf of actual storage capacity for large installations to about $140 per Mcf for units as small as one million foot.

When large volumes of gas for stand-by purposes are required, liquefied natural gas should be considered. Such a system would use tanks similar to conventional oil storage tanks but provided with a double shell and heavy insulation for storage of liquefied natural gas. For the liquefaction of the natural gas, facilities would include a cascade type of refrigeration system of the usual construction.

Sendout facilities for such a plant would incorporate liquid pumps of a special design and direct-fired vaporizers to convert the vapor to the liquid state. Sendout facilities are small in cost with relationship to the storage and liquefaction portions of the installation.

Large plot needed

For a few cases which have been considered, a large plot of ground was required and there seems to be no way of reducing the plot size. Precedents have been established in the proceedings before the Federal Power Commission and representatives of the Bureau of Mines which call for a minimum plant area of one mile square to provide for protection of abutters in the event of a major tank failure.

Costs for storing gas in such a system are low, with the capital investment required varying from $10 per Mcf for a storage capacity of 100,000,000 cu. ft. to $7 per Mcf for a 1,000,000,000 cu. ft. storage capacity. The liquefaction rate required for each of these systems has some effect on the storage cost.

However, any system proposed would probably contemplate filling in 300 days, if used for stand-by purposes. On this basis, the filling rate can be readily coupled to the storage capacity, and the costs cited have been determined on this basis. As the plant size becomes smaller, the cost of the storage would approach that of storage in pipe batteries.

To provide for complete interchange with the gas distributed, consideration should be given to storing some high pressure gas along with the propane, and this frequently can be accomplished using pipe batteries to good advantage.

The plants described have been considered for stand-by purposes only. When the installation is considered as an addition to an existing peak shaving operation or a proposed peak shaving operation, the combination of facilities to provide for the lowest investment and annual charges should be determined for each case. If propane is used for the peak shaving operation, consideration should be given to enlarging the plant with reserve propane storage and adding gas storage to the installation to provide for interchangeability in the event of supply outage.

When considering stand-by plants, a question that frequently arises is, how much storage capacity should be provided to carry the system over a pipeline interruption? If a 24-hour period is chosen, the quantity required could become extremely large for one of the major gas distributing companies in this area and would probably be prohibitive insofar as operating costs are concerned. Some stand-by should be available to provide for short term interruptions.

Natural gas transmission systems as a whole are interconnected at a great number of points, although many of the connections are indirect. While no gas transmission company will contract to supply gas without interruptions or to supply emergency gas only, all pipelines and utilities will aid others in distress. This cooperation offers the best assurance that no cooperative company, distributing or transmission, will be permitted to run out of gas. Emergency supply of gas can be made available from utilities not otherwise affected, and by placing into operation peak shaving facilities to the greatest extent possible.

General equipment

(Continued from page 17)

ment with the proper location when movable equipment strays.

(2) By item code within accounts—furnishes such information as total number of typewriters, adding machines etc., the department in which they are located, their age and other pertinent information.

(3) By location, by item code within accounts—this report is so arranged that a separate report for each area can be neatly bound once each year and forwarded to the responsibility area head, to apprize him of the equipment for which he is responsible. He has in his hands a description of the equipment, its age and value. The duplicate copy becomes a working copy for the insurance department. This grouping is run twice to furnish the property records department with its copy.

(4) By year purchased within accounts—a valuable aid for depreciation

studies.

The duplicate copies of all these runs are used to satisfy individual requests for copies of information throughout the year.

The preceding procedure applies to all general equipment except transportation vehicles and work equipment which are depreciated on a unit basis and charged to operating and maintenance expenses through a clearing account. Such equipment is identified by a number decal attached to the vehicle. The numbers are a four digit series set out in groups of thousands, the first digit of which identifies the class of vehicle, for example: 1000 denotes executive cars, 2000—cars and trucks under one ton, 3000—trucks one ton and over, etc.

The detailed property record of such equipment is maintained on exactly the same IBM card as that used for other general equipment with the added advantage of mechanical computation of the unit depreciation. The computation of depreciation now takes 20 minutes on an IBM 604 whereas it formerly required two man-days of a clerk's time to make the same calculation.

Each month the machine accounting department furnishes a list showing the class of vehicle, vehicle number, month and year of purchase, number of months of depreciation, original cost, amount to be depreciated monthly, accumulated depreciation to date and the depreciated value of each vehicle.

The method of numbering, recording and controlling general equipment which has been described has been in use since January 1, 1952. The card record is maintained for approximately 12,000 items of equipment and its operation has proved very satisfactory. In terms of personnel, one full-time property records clerk handles all of the work of that department in assigning numbers, maintaining the supporting card records, processing necessary entries for retirements, recording transfers, and distributing of reports.

The machine accounting department prepares the necessary punched cards and prints all listings and reports. Persons responsible for tagging of equipment are under the supervision of the purchasing department at four receiving locations. These persons have been thoroughly trained as to the desired results and their cooperation is most necessary to assure proper equipment identification.

The system has been found to be workable and simple to maintain. The periodical reports furnished to the department and area heads have served to emphasize their responsibility for equipment under their jurisdiction.

Rate changes

(Continued from page 8)

ing costs of the distributing companies, other than gas costs, were higher labor costs and an increased tax burden.

The two primary reasons reported for the institution of lower rates in 1953 were conversion to the distribution of natural gas and the attempts of utilities to promote certain types of use, notably residential house heating. Furthermore, the conversion to the distribution of natural gas may have forestalled a greater number of rate increases, not only for 1953, but also for prior years.

An analysis of the means of effecting the rate changes, as reported by 84 utilities distributing natural gas during 1953, indicated that for the most part utilities utilized a varying change in price in blocks of their rate schedules. Another common method employed in effecting the change in rates was changing the size of the consumption blocks. Still another popular method for effecting the rate changes was to institute a change affecting the minimum or initial charge. With the increased cost of gas from suppliers, more and more utilities, with commission approval, are beginning to institute purchased gas cost adjustment clauses as a means of recovering this higher gas cost. Naturally, the procedures used in effecting needed rate changes depend, to a considerable degree, on local circumstances.

SUMMARY OF GAS RATE CHANGES REPORTED BY 84 COMPANIES DISTRIBUTING NATURAL GAS DURING 1953

Reason for Change	*Times Reported*	*Manner of Effecting Change*	*Times Reported*
Change in cost of gas from supplier	73	Change in price of initial block only	1
Change in labor cost	18	Change in price of terminal block only	9
Change in taxes	9	Uniform change in price	15
Attempt to promote certain types of use	8	Varying change in price	58
Conversion to another type of gas	8	Change affecting minimum or initial charge	36
Over-all earnings	5	Change in size of blocks	37
Rise in operating costs	3	General rate structure changed	20
Change in construction costs	1	Fuel adjustment clause deleted	5
Change in rate base	1	Purchased gas cost adjustment clause instituted	7
Change in cost of materials and supplies	1	Tax adjustment clause instituted	3
Change in competitive position	1	Prompt payment discount deleted	1
To provide uniformity of step blocks	1	Delayed payment charge deleted	3
		Seasonal rate form instituted	1

Gas heating

(Continued from page 24)

of the East North Central and West South Central regions.

Saturations of heating customers, as a percentage of total residential customers served, exceed 90 percent in the West South Central, Mountain, and Pacific areas but are still less than 10 percent in the New England states. For the entire country, the heating saturation has now reached 50.6 percent and is expected to approximate 60 percent within another two years.

Pipeline research

(Continued from page 23)

Since nearly 2,000,000 entries will be involved, it is planned to publish these tables in seven volumes with six volumes for hydrocarbon gas supercompressibility factors, each volume covering a pressure range of 500 psig. A seventh volume is to be used for gases having carbon dioxide and/or nitrogen contents within the range given above.

These volumes will provide the gas industry with expanded, error-free operating tables of supercompressibility factors and will eliminate inevitable errors and differences in interpolation and rounding when using less extensive tables.

New research projects in this field include a trial application of recently developed techniques of lubricating oil analyses to indicate rate of *wear in engines and compressors;* a preparation of *pipeline efficiency test standards* after present practices, field procedures, and calculation techniques have been clarified and defined; a critical survey of literature, field experience, and other sources relating to *internal coating of pipe* for improving flow efficiency; and a coordinated effort to solve unanswered questions about *orifice metering of pulsating gas flow.*

Production

In the field of production the project dealing with phase relationships of gas-condensate fluids, jointly sponsored by A. G. A. and the U. S. Bureau of Mines, has resulted in a manuscript for the monograph, "Phase Relations of Gas-Condensate Fluids." The draft of this monograph is almost 70 percent completed and it is expected that Volume I will go to press in the Fall of 1955. This monograph should see widespread use by the industry, especially by gas reserves specialists.

Another project, similarly sponsored, deals with the development of improved methods of measuring the productivity and estimating the future productivity of high pressure wells.

Underground storage

In connection with the underground storage of natural gas, a study of methods of predicting the deliverability of gas from wells producing from underground gas storage reservoirs is continuing. Water drive, water production, and storage reservoir properties are being investigated. The information developed from this study will aid in the operation of storage reservoirs at maximum efficiency, in the choice of suitable storage reservoirs, the estimation of the number of wells required for the operation and the design of equipment necessary for storage operation.

Comic skits

(Continued from page 19)

The obnoxious serviceman approaches his customer with "Yeah! Gas man! I'm here to see what you're complaining about."

In the second act, the "ideal" serviceman shows how to pacify an irate customer, win an appliance lead and a compliment for gas company service. His approach begins:

"Good morning, Mr. Jones. Brooklyn Union Gas Company. I'm here in answer to your request for range service."

Orders and Records employees have developed another hit production, this one conceived by Superintendent John L. Mazaika. The first act, "Bust the Business," shows an ill-tempered order clerk destroying the confidence of an amiable but bewildered customer.

In the second act, "Build the Business" is the theme. The actors switch parts but keep the same temperaments. The audience sees a difficult customer and a pleasant, courteous, thoughtful telephone order clerk.

These two side-splitting comedies spotlight two basic themes of the Customers Service Department:

"The serviceman is the face and fingers of the gas company.

"In the eyes of your friends and customers you (the employee) represent the gas company. Everything you do either helps or harms the business of which you are a part."

All possible means of augmenting the program are being explored. Recently, the company purchased the new A. G. A.-EEI Customer Relations Training Program. According to W. E. Himsworth, assistant vice-president, this packaged course is being introduced first to supervisors in the Commercial Department.

Accountants plan

(Continued from page 28)

Long Island Lighting Co. P. E. McClellan, Citizens Gas and Coke Utility, will present a paper, "Accounting for Gas Service Construction Costs," and A. C. Herron, Florida Power Corp., will discuss "Training Plant Accounting Personnel."

The Tuesday afternoon session will be devoted to a panel discussion on plant accounting and property records problems. The panel of "experts" will consist of G. F. Dixon, Milwaukee Gas Light Co.; J. W. Dungan, The Toledo Edison Co.; C. W. Kelsey, N. Y. State Electric and Gas Corp.; C. J. Lytle, Hope Natural Gas Co.; C. A. McKenna, Wisconsin Public Service Corp.; and R. H. Miller, Northern Natural Gas Co. H. G. Eilers, The Cincinnati Gas and Electric Co., will serve as the moderator.

The Wednesday morning meeting will cover several interesting and controversial subjects, including "Accounting for Contributions in Aid of Construction," to be presented by G. M. Hess, Pennsylvania Electric Co.; "Accounting for Spare Parts," to be discussed by L. W. Burns, Northern States Power Co., and "Accounting for Metering Installations," to be presented by W. W. Henry, Philadelphia Gas Works.

The Taxation Accounting Committees' meetings on Tuesday afternoon and Wednesday morning will be presided over by C. D. Osterholm, Northern Natural Gas Co., A. G. A. chairman, and C. A. Palgren, Jr., New Orleans Public Service Inc., EEI chairman. Plans call for discussion of all aspects of the Internal Revenue Code of 1954.

Great emphasis will be placed on discussions of tax planning and taxation accounting. In view of the current status of many unresolved tax problems, it is expected that the meetings of the Taxation Accounting Committees will attract a large attendance.

S. W. Binckley, Southern California Gas Co., A. G. A. chairman, and C. N. Rice, Northern States Power Co., the EEI chairman, will conduct the Tuesday and Wednesday meetings of the Depreciation Accounting Committees.

Plans have been made to have a panel discussion of the depreciation provisions

of the 1954 Revenue Code. Other subjects which will also be discussed include methods of accrual and reserve computation, effect of declining value of the dollar on depreciation accounting, tabulation of service lives and salvage ratios, and current court and commission decisions relative to depreciation.

The Internal Auditing Committees' meetings will be guided by J. A. Riley, Philadelphia Gas Works, A. G. A. chairman, and G. C. Becher, The Dayton Power and Light Co., who is EEI chairman.

Papers to be presented will cover a wide range of auditing problems. They will include "Audit Activities and Their Relation to the Total Audit Program"; "Audit of Construction Contracts"; "A Compendium of Internal Auditors' Experiences in the Conduct of Operational Audits," and "The Practical Application of Statistical Sampling."

All delegates who attend the Internal Auditing meetings will be encouraged to participate in discussions which will follow presentation of prepared papers.

Hold combined session

The three committees of the Customer Activities Group, namely, Customer Accounting, Customer Collections, and Customer Relations, together with the Accounting Employee Relations Committees will meet in a combined session on Wednesday morning. The Customer Activities Coordinators, J. H. Purdy, Consolidated Gas Electric Light and Power Company of Baltimore, for A. G. A., and F. J. Porter, Jr., Consolidated Edison Company of N. Y., for EEI, will preside at this session.

"Budget Billing" as it applies to gas and electric space heating will be the subject of a paper to be presented at this combined session by L. J. Scully, Union Electric Company of Missouri and H. C. Garvens, Milwaukee Gas Light Co., representing the Customer Accounting Committees.

J. Gordon Ross, Rochester (N. Y.) Gas and Electric Corp., will discuss "Customer Relations Training." He will tell the story of the acceptance and use of the "Training Package" by companies in the industry. The tremendous benefits that may accrue to a company through the use of the training films and manual will be dramatized by Mr. Ross and should be of major interest to all delegates who are concerned with the problem of developing better customer relations.

The Customer Collections Committees will present a condensed symposium on the subject "What to Do About the Rising Trend of Charge-Off." W. C. Washburn, credit manager, Equitable Gas Co., is chairman of the project committee which will present this discussion.

The Accounting Employee Relations Committee, in rounding out the combined meeting, will be represented by J. D. Elliott, Detroit Edison Co. Mr. Elliott will present a timely and interesting paper on "Automation—Effect on Employees."

Separate meetings of the Customer Activities Group committees and the Accounting Employee Relations committees will be held on Tuesday morning and afternoon, punctuated by luncheon meetings at noon.

The discussions of the Customer Accounting Committee at the Tuesday meeting will cover a number of subjects of major interest. The plan of the meeting has been characterized as "one large bull session." Each speaker will present his subject briefly and informally, just to the point of stimulating active audience participation.

A. W. Merchant, Michigan Consolidated Gas Co., A. G. A. chairman, and S. A. Cole, New York State Electric and Gas Corp., EEI chairman, will preside at the meeting.

"What's New in Mark Sense Applications" will be discussed by C. D. Otcaset, The East Ohio Gas Co., and R. G. Maas, Wisconsin Electric Power Co. "Estimated Meter Reading—Practices and Policies" will be the subject of a paper to be presented by C. R. Gibbons, Pennsylvania Electric Co., and F. A. Dauw, Iowa-Illinois Gas and Electric Co.

Other topics will be "Methods and Trends in Cash Posting," to be outlined by W. J. Taraldson, Minneapolis Gas Co., and M. F. Young, Connecticut Light and Power Co.; "What Constitutes a Modern Bookkeeping System," to be covered by G. E. Minister, Columbus and Southern Ohio Electric Co., and A. C. Haake, The Peoples Gas Light and Coke Co.; "Checking for High, Low and No Consumption Accounts," to be discussed by J. S. Berry, Delaware Power and Light Co., and P. F. Hlubb, Consolidated Gas Electric Light and Power Company of Baltimore. A "Why Do It?" discussion will be led by D. M. Arnold, Pennsylvania Power Co., and Urban J. Farnsworth, Michigan Consolidated Gas Company.

Two manuals which have been developed by project committees will also be unveiled at the conference. One will be "Account Numbering Systems," prepared by E. F. Sahlender, Philadelphia Gas Works Div. and A. B. Wilson, Georgia Power Co.; and the other will be "Bill Forms and Meter Reading Sheets," prepared by C. F. Wahli, Knoxville Utilities Board. These two manuals will be valuable additions to utility company libraries.

George E. Smith, Consolidated Edison Company of N. Y., A. G. A. chairman, and T. J. Peterson, The Detroit Edison Co., EEI chairman, will jointly conduct the Customer Relations Committees' sessions on Tuesday.

Utility company executives who are concerned with the ever-mounting problems that face customer contact employees—or with keeping their company's customers content, will not want to miss this meeting.

Diversified presentations

The topics scheduled for presentation are as diversified as they are numerous. Much will be said about the things that annoy customers, or of what prompts their grievances. But there will be some solutions offered and perhaps a new thought or two on how to successfully overcome these difficulties.

The full-day get-together will include the following:

"An Objective Approach to Customer Relations", D. B. Allison, Philadelphia Gas Works.

"High Bills—a Continuing Problem," D. D. Ferry, Union Electric Company of Missouri.

"Adequate Wiring—How to Promote It," J. B. White, Jr., Duquesne Light Company.

"Make the Most of Customer Contact Opportunities," R. D. Davis, Ohio Power Company.

"Customer Relations Aspects of Collection Problems," N. F. Schaberg, Michigan Consolidated Gas Company.

"Customer Relations Aspects of Metering Problems," C. T. Shoch, Pennsylvania Power and Light Company.

"Customer Relations Aspects of Service Delays," J. W. Kehoe, Commonwealth Edison Company.

"Estimated Final Bills," L. D. Kurtz, West Penn Power Co., and J. B. Hoon,

United Fuel Gas Company.

"Bi-Monthly Billing," J. A. Galvin, Boston Edison Company.

"Transferring Final Consumptions," C. L. Digiovanni, The Laclede Gas Co., and N. F. Schaberg, Michigan Consolidated Gas Company.

The Tuesday meetings of the Customer Collections Committees will be guided by F. J. Maguire, Boston Consolidated Gas Co., for A. G. A., and by A. H. Mayer, Consolidated Edison Company of N. Y., for EEI. Plans made for the meeting include arrangements for a "Collection Panel Discussion" at the luncheon session, under the direction of R. B. Mitchell, The Peoples Gas Light and Coke Company.

Papers to be presented and discussed will include: "Changes in Credit and Collection Practices," F. T. Hager, Philadelphia Gas Works; "Review of Form Letters and Notices," J. E. Malone, The East Ohio Gas Co.; "Expediting Collections by Estimating Final Bills," W. T. Brauer, Long Island Lighting Co.; and "The No-Collector Plan," H. S. Hahn, The Ohio Fuel Gas Co.

L. J. Rauh, Consolidated Gas Electric Light and Power Company of Baltimore, will present a report on the credit picture study.

A highlight of the session will be a special report by J. D. Elliott, Detroit Edison Co., on the subject, "The Probable Impact of Electronics on Credit and Collection Operations."

The A. G. A. Accounting Employee Relations Committee chairman, J. F. Daly, Long Island Lighting Co., and the EEI chairman, C. F. FitzGerald, Rochester (N. Y.) Gas and Electric Corp., will jointly conduct the open forum sessions of these committees on Tuesday. The theme of these discussions will be, "The Road to Successful Supervision." Discussion leaders will present brief talks on various topics as a means of developing audience discussions.

The following topics are scheduled for the morning discussions, "Am I On the Team?", J. F. McCahon, Philadelphia Electric Co.; "Job Enlargement," T. J. Blake, The Peoples Gas Light and Coke Co.; and "Is It My Business?", H. S. Currey, Niagara Mohawk Power Corporation.

At the Tuesday afternoon session, three additional subjects will be presented. "The Supervisor—a Rule Follower or Man of Judgment?" will be discussed by G. P. Massengale, Union Electric Company of Missouri; "Promotion—Principally on Basis of Merit and Ability," will be outlined by D. S. Lord, Public Service Electric and Gas Co.; and a discussion of "What Makes a Good Supervisor?" will be led by G. U. Callens, The Detroit Edison Company.

In line with the highly successful exhibits at preceding conferences, several manufacturers of office and accounting equipment will display their products at this conference and will have representatives present to explain and demonstrate their products.

Wives of delegates to the conference are cordially invited to participate in a special Ladies' Day program of sightseeing in Chicago, which is being especially planned for them. The ladies will be welcome to attend the banquet which will be held on Tuesday evening.

Utility accountants will find all roads leading to the "Windy City" in April. Plan now to attend; you will find all your friends, old and new, will be there.

Home service

(Continued from page 14)

The laundry was the center of attention in another presentation, "A Fashion Show of Fabulous Fabrics". All of the dresses and costumes shown in the show had been machine washed and dried. Many of them, when dried in an automatic gas dryer, had required no ironing at all! The show was MC'd by Lee Ballard, Avco Manufacturing Co., Bendix Division, New York, N. Y., and models included several home service girls and a bright-eyed little Chicago schoolgirl.

Two attractions were the display of Christmas literature from companies across the country, and a showing of color slides which introduced new ideas being used in modern home service kitchens. Kathryn Barnes, Equitable Gas Co., Pittsburgh, delivered the commentary to the slides of 29 kitchens showing new ideas in storage and broken walls which incorporate both the laundry and kitchen on the demonstration stage.

Speaking on the broader subject of the role of home economics in the utility, Katherine Rathbone, presiding at the Monday morning session, brought representatives up to date on the entire home service picture—a picture of work in an expanding market for gas despite a stiff competitive market.

Irene Muntz, home service manager, Rochester Gas and Electric Corp., told of the common bond which exists between her company's service and home service departments, and the events that led to the achievement of that cooperation.

Another feature was a panel discussion which studied the problem of securing qualified personnel in competition with many other groups who need home economists. This problem, common to almost all home service directors nowadays, was analyzed by Jeanne Montgomery, United Fuel Gas Co., Charleston, moderator, with the help of five panel participants: Julia Hunter, Lone Star Gas Co., Dallas; Mrs. Helen Mandigo, The Gas Service Co., Kansas City, Mo.; Eleanor Morrison, Michigan Consolidated Gas Co., Grand Rapids; Mary E. Pfeiffer, Zinser Personnel Service, Chicago and Mildred Ann Smith, Nashville Gas Co., Nashville, Tennessee.

Mary Brown Allgood, Pennsylvania State University, State College, Pa., analyzed a perfect demonstration and with kindly good humor, pointed out where many otherwise expert home economists fail to measure up to strict standards. In her talk, "Demonstration Techniques", she gave innumerable helpful hints and trade secrets.

Grocery market shelves are bulging with new products—from canned pies to frozen soup. Ruth Sheldon, home service director, Washington (D. C.) Gas Light Co., brought news of these new developments as well as details of experiments on staples such as milk, potatoes, fish and poultry. She told of new processes, such as dehydrofreezing, still in the research stage, which may mean more help for tomorrow's homemaker.

At Monday's conference-luncheon, presided over by Mildred R. Clark, home service supervisor, Oklahoma Natural Gas Co., F. X. Mettenet welcomed visitors to Chicago and emphasized the importance of telling management what is being accomplished in the home service field. "Don't sell yourselves short", he said. Mr. Mettenet is vice-president of The Peoples Gas Light and Coke Co., Chicago.

The luncheon speaker, Mort Farr, chairman of the board, National Association of Radio and Television Dealers and a dealer in Upper Darby, Pa., sounded an optimistic note in his talk,

"The Dealers' Viewpoint". He pointed out the many positive selling features of the new gas appliances and deplored the defensive attitude of many salesmen in light of advances made within the industry in recent months. His talk was based on answers to a questionnaire answered by 250 appliance dealers.

Elizabeth Lynahan, home service director, The Peoples Gas Light and Coke Co., presided at the Wednesday luncheon. W. H. Kurdelski was luncheon speaker, and Mrs. Dione Lucas, television's cooking star, gave a performance in "Demonstrating the Fine Art of Cooking" at the end of Wednesday's luncheon session, through the courtesy of Caloric Appliance Corp., Topton, Pennsylvania.

The conference was not "all work and no play". After adjournment of sessions on Monday, a social hour was held at the Drake Hotel, with the gas range division, Gas Appliance Manufacturers Association, as host. The social hour was followed by a buffet supper and entertainment—all the stars of which were home service people. Katherine Rathbone, Home Service Committee chairman, was hostess; Mary E. Huck, home service director, The Ohio Fuel Gas Co., Columbus, was program chairman.

Contributing largely to the success of the conference were three working committees. The Program Committee included: Katherine L. Rathbone, Southern Counties Gas Co. of Los Angeles; Gladys B. Price, Southern California Gas Co.; Eleanor Morrison, Michigan Consolidated Gas Co., Grand Rapids; Irene L. Muntz, Rochester Gas and Electric Corp.; Mary E. Huck, The Ohio Fuel Gas Co., Columbus; Mildred R. Clark, Oklahoma Natural Gas Co.; Elizabeth J. Lynahan, The Peoples Gas Light and Coke Co., Chicago, and Jessie McQueen, American Gas Association.

The Hospitality Committee was made up of: Mrs. Kathryn Johnson, Rockland Light and Power Co., Spring Valley, N. Y.; Virginia J. Belden, Natural Gas Service Company of Arizona; Lucy Slagle, Atlanta Gas Light Co.; Frances Riley, The Peoples Gas Light and Coke Co.; Viola M. Decker, North Shore Gas Co., Waukegan; Vivian L. Marshall, New Orleans Public Service, Inc.; and Mrs. Kathryn Ashcraft, The Ohio Fuel Gas Co., Columbus.

The Registration Committee members were: Mildred Endner, Minneapolis Gas Co.; Ruth Sheldon, Washington Gas Light Co.; Sarah Sicker, South Jersey Gas Co.; Mrs. Elizabeth Wilson, New York State Electric and Gas Corp.; and Mrs. Catherine Allspaugh, Scranton-Spring Brook Water Service Company.

Gas laundries

(Continued from page 7)

ment for its detergent "All" is part of the *Post* section, is also engaging in the laundry promotion on the local level. It has produced a special gas version of the famous "No Soap Opera" and has made it available for use by local gas companies at no charge. More than 50 gas companies have signed up for the production.

The most elaborate promotion arranged by the New Freedom Gas Kitchen and Laundry Bureau does not begin during the February-March campaign but will run through Spring and Summer. It is a "parade" of gas home laundries that opens in May at Newark, N. J. and then moves on to Philadelphia and Pittsburgh.

These gas laundries are designed by equipment editors of such national magazines as *American Home, Woman's Home Companion, Better Living, Family Circle* and *Parents*. Cabinet and appliance manufacturers have cooperated with these magazines to build actual models ranging in size from a compact 10 by 10 feet to 16 by 16 feet.

These laundries have been designed to bring glamor and beauty into the basement, side porch, game room, den or almost any other convenient area of the home. The tremendous potential of the home laundry market today is evidenced by the money these national magazines and equipment manufacturers are willing to spend for these displays.

To promote the May 9 opening of the "Laundryama," Public Service Gas and Electric Co., Newark, N. J., plans a full schedule of newspaper advertising. Seven television shows, 28 fashion shows and 70,000 printed invitations are among other Public Service activities planned to stimulate public interest and attendance during the week's showing of the "Laundryama".

The laundry show will be in Philadelphia under the auspices of Philadelphia Gas Works for the remainder of May and during June. The three Pittsburgh natural gas companies will use the "Laundryama" as their combined exhibit at the Allegheny County Fair, Sept. 1-5.

CONVENTION CALENDAR

1955

MARCH

7-9 •Mid-West Gas Association, St. Paul, Minn.
7-11 •National Association of Corrosion Engineers, Chicago, Ill.
21-23 •A. G. A. General Management Section, Spring Conference, Cincinnati, Ohio
24-25 •New England Gas Association, Annual Meeting, Boston, Mass.
24-25 •Oklahoma Utilities Association, annual meeting, Tulsa, Okla.

APRIL

12-14 •A. G. A. Sales Conference on Industrial and Commercial Gas, Hotel Statler, Boston, Mass.
14 •GAMA Sixth Annual Automatic Gas Range Conference, Hotel Pierre, New York, N. Y.
12-15 •A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Cincinnati, Ohio
18-19 •A. G. A. Residential Gas Section, Eastern Natural Gas Regional Sales Conference, Hotel William Penn, Pittsburgh, Pa.
19-21 •Southwestern Gas Measurement Short Course, University of Oklahoma, Norman, Okla.
20-22 •Indiana Gas Association, Annual Meeting, French Lick, Ind.
25-27 •Mid-West Regional Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.
25-27 •National Conference of Electric and Gas Utility Accountants, Conrad Hilton Hotel, Chicago, Ill.
27-28 •A. G. A. Research and Utilization Conference, Hotel Statler, Cleveland, Ohio

MAY

1-4 •LPGA Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
2-4 •U. S. Chamber of Commerce, Annual Meeting, Washington, D. C.
2-6 •A. G. A. Industrial Gas School, William Penn Hotel, Pittsburgh, Pa.
9-10 •A. G. A. Gas Supply, Transmission and Storage Conference, William Penn Hotel, Pittsburgh, Pa.
9-13 •National Restaurant Exposition, Navy Pier, Chicago, Ill. (A. G. A. will exhibit)
12-13 •Public Utilities Advertising Association, Sheraton Hotel, Chicago, Ill.
16-18 •Southern Gas Association, New Orleans, La.
17-19 •Pennsylvania Gas Association, Pocono Manor Inn, Pocono Manor, Pa.
23-24 •A. G. A. Residential Gas Section New York-New Jersey Regional Gas Sales Conference, Hotel Commodore, New York, N. Y.
23-25 •A. G. A. Chemical, Engineering and Manufactured Gas Production Conference, Hotel New Yorker, New York, N. Y.

Personnel service

SERVICES OFFERED

Industrial Sales Engineer—with twenty years' experience in applications of gas and oil to various industrial and commercial processes. Executive and organization ability. Qualified heating engineer. Midwest area preferred. Will consider other territory. Presently available. **1801.**

Student Engineer—holder of BS from Punjab University and at present studying gas distribution and supply at Westminister Technical College in London. Wishes to gain practical experience in U.S. and then plans to return to Pakistan eventually. (24) **1802.**

POSITIONS OPEN

General Manager—required for a rapidly expanding electrical utility and an extensive gas utility in the province of Saskatchewan, Canada. State fully background and experience including previous training in and knowledge of electrical and gas utilities and industrial and public relations. State salary expected and date available. **0755.**

Plant Manager—capable of taking charge of operation of small plant manufacturing furnaces and heating equipment. Must know plant engineering, labor relations, scheduling, industrial engineering, tools, dies and machinery. Engineering degree and some sales experience in heating is desirable. Permanent position with constantly increasing potential with well rated company. Submit details about self and past experience and salary expected. **0756.**

Home Economist—for permanent home service position in Midwestern natural gas utility. Desire lady with pleasing personality, degree, age 25-38 and home economics teaching, demonstration or sales experience. Good salary, opportunity for advancement, insurance, paid vacation and other benefits. State qualifications, age, enclose picture. **0757.**

Gas Sales Engineer—semi-utility propane tank truck operation switching over to natural gas in several communities, averaging 3,000 population. Company located in the northern part of Red River Valley on the Minnesota side. Salary depends upon experience in building natural gas load in small towns. Salary range from $600 to $800. **0758.**

Test and Development Engineer—exceptional opportunity for experienced test engineer offered by national manufacturer of domestic gas heating equipment. Duties involve product development and testing. Several years' experience and thorough knowledge of A. G. A. testing procedures required. **0759.**

Heating, Ventilating, and Fuel Economy Engineer—qualified to evaluate commercial size heating and ventilating equipment and installations and make cost analyses thereof. Beginning salary approximately $5,900. **0760.**

Business Manager—with medium-sized Mid-Western utility, serving approximately 140,000 gas and water meters. Must be capable of coordinating and supervising General Accounting, Auditing, Consumer's Accounting and Purchasing departments. Will be responsible for establishing accounting controls, budgets, procedures, etc. in connection with entire operation of company. Degree in Accounting necessary. Must be in good physical condition. **0761.**

Distribution Engineers—a prominent midwestern utility has immediate need for Gas Distribution Engineers. Must be a college graduate with experience in distribution engineering and operations. Your reply should include age, experience and salary requirements. All replies will be held confidential. **0762.**

Gas Meter Engineer—experienced in operation, testing and maintenance of displacement and orifice meters. Opening is with sound, fast growing, midwestern utility serving 140,000 customers. Good opportunity for advancement. Give details of experience, education and personal data. **0763.**

Salesmen—experienced in sales and service, gas and air conditioning equipment. Metropolitan New York area. Must have own car. Send in resume. **0764.**

Gas Plant Engineer—short term overseas assignment on staff of American consulting firm to survey and report on proposed improvements to two municipal gas plants. **0765.**

A. G. A. host

(Continued from page 25)

the tickets will not be charged against limitations on the amount of currency which they might otherwise be permitted to take out of their countries. Transportation not purchased in delegates' home countries may be arranged for and purchased through the Conference headquarters.

A Conference headquarters will be maintained adjacent to the Conference meeting rooms in the Hotel New Yorker throughout the Conference to facilitate matters of foreign exchange, telephone and telegraph services, etc.

There will be established during the Conference for the ladies accompanying the delegates a hospitality room in connection with the Conference headquarters in the Hotel New Yorker where information concerning visits to art museums, concerts, shopping centers, etc., may be obtained so as to enable them to acquire a better knowledge of the daily life in New York. Entertainment and other functions for the ladies have been planned. Therefore, a nominal fee of $15.00 will be charged for any ladies accompanying delegates.

Costs of the formal portion of the Sixth Conference will be underwritten by the member companies of the American Gas Association. Therefore, no registration fee will be required from the delegates of foreign countries.

Contacts with the U. S. Department of State about entry of delegates into the United States emphasizes the wisdom of early application for passports and visas in order to assure a minimum of difficulty. Issuance of passports and visas by the State Department will permit free travel within the country including those points of interest scheduled for field trips during and after the Conference. Delegates desiring to enter Canada must be certain to apply for multiple-entry visa to assure free admittance into Canada.

New wing

(Continued from page 18)

of 50 foot candles at the working zone.

The 8,500 square foot lower level floor area of the north wing building is used for uncrating and storage of appliances. New models as they are received are uncrated and placed on dollies or pallets and stored in rows to permit ease of locating and movement to the upper level test floor as called for by the testing department.

In planning the interior arrangement of the north wing building, attention was given to minimize the traffic and handling of appliances within the Laboratories. Central heating appliances, generally being more bulky and heavier than other types, require only a minimum of movement from the lower "awaiting test" storage level to the test floor.

By placing all central heating units and other appliances such as domestic and commercial gas ranges, clothes dryers, etc., on pallets when received, delivery of appliances to the test floor has been made easy and convenient. This is achieved by use of hand operated pallet trucks and a conveniently located hydraulic elevator in the new building addition.

This recent expansion marks another milestone of growth in service of the A. G. A. Laboratories—a service assuring that approved gas equipment when properly installed will operate safely, is of durable construction and will give many years of satisfactory trouble-free performance.